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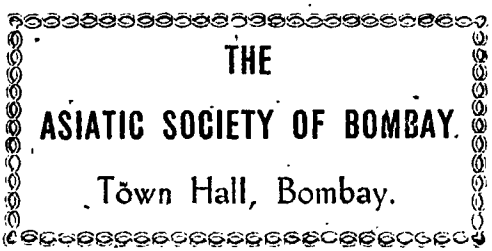

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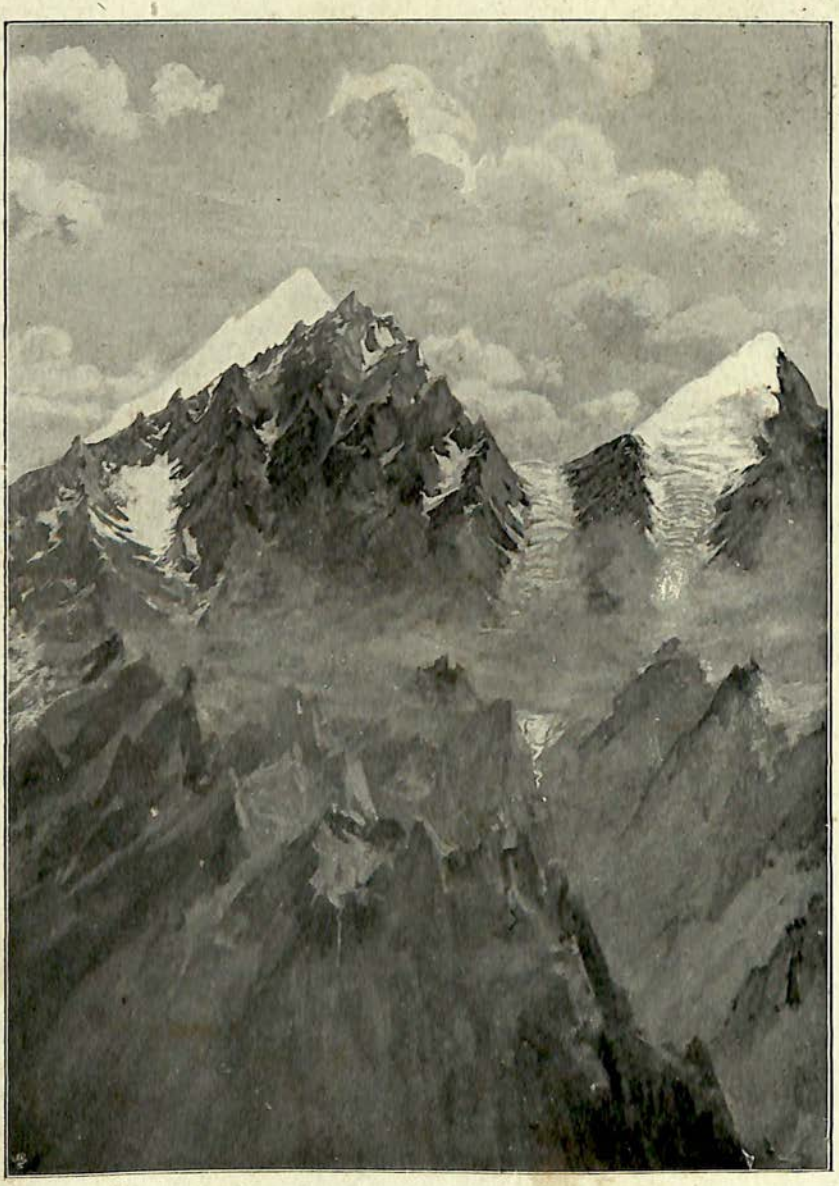

MT. KOSER GUNGE, FROM THE SHIGAR VALLEY, 21,000 FEET.

[*Frontispiece.*

DEDICATION

"Far in the north Himálaya lifting high
His towery summits, till they cleave the sky
Spans the wide land from east to western sea,
Lord of the Hills, instinct with Deity."

HE, who has wandered under the shadow of the banyan, *pepul* and tamarind of India, the palms of Ceylon, the weird creepy trees of Siam, and the kingly *waringen* of Java, and has lingered by their stone duplicates and the *naga* forms, deftly cut upon the walls of the temples, can understand something of the motives of the bygone adherents of the Tree and Serpent worship, which led them to adopt these emblems of protection and power as objects of their adoration; emblems, which, after the disappearance of the original cult, intertwined themselves so persistently with both the Brahmanic and Buddhist traditions.

So he, who has spent months among the silent glaciers and peaks of the icy wilderness

on the northern boundary of India, can understand, why the Men of the Hills should invest these temples, built by architects no man can emulate, with a sacred character, people their icy *cellas* with imaginary deities, and wreath their spires with the incense of a primitive folk lore.

In sympathy with the sentiment, which inspired these early races and led them to appreciate the power and majesty of nature, we dedicate this narrative to the Abode of Snow, the thousand pillared ice halls, the grandly chiselled *gopuras*, the golden pinnacled *sikras*, that for fourteen hundred miles on the north, form a dazzling chain of glory, protection and power to India.

FANNY BULLOCK WORKMAN.
WILLIAM HUNTER WORKMAN.

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INTRODUCTION

WE went to the East in October 1897 with the purpose of seeing something of the treasures of Buddhist, Hindu, and Mohammedan Architecture and Art, with which it is enriched. We proposed to use our bicycles as a means of travel, so far as the existence and condition of roads would permit. In the prosecution of our design, we have, during the past two and a half years, cycled over large portions of India, Ceylon, and Java, besides travelling to some extent in Sumatra, Indo-China, and Burma, and have thus been able to visit many places, that would otherwise have been difficult to reach.

In order to escape from the heat of the Indian plains, we have spent two summers among the higher Himalayas. During that of 1898 we made an expedition from Srinagar, to which point we cycled, into the mountains of Ladakh, Nubra and Suru, and in the autumn, from Darjeeling into Sikkim.

In July 1899, starting again from Srinagar, we crossed the Deosai Plains into Baltistan. From Skardu we went to the Shigar Valley, over the Skoro La to Askole, and up the Biafo Glacier to the Hispar Pass. Returning over Askole, we made the ascent of two hitherto untrodden peaks of the Skoro La circle, and of Koser Gunge from the Shigar Valley. We then retraced our steps to Srinagar, whence we visited the Lidar Valley, following it up to its termination in the glaciers of Kolohoi, upon which we made a reconnaissance to the base, 15,000 feet, of the highest peak, which, owing to the lateness of the season, was covered with fresh snow to such a depth, that attempting to ascend it was out of the question.

In these pages we do not propose to describe the whole of our Himalayan wanderings, but to touch upon those parts, that seem to us to possess an interest, or to present material worthy of record.

For the last season's expedition, we were enabled to secure the services of the noted guide Mattia Zurbriggen, through the kind assistance of Dr W. A. Wills, Honorary Secretary of the Alpine Club. Mrs Workman had written Dr Wills in the spring, asking if he

could advise us in securing the services of a good guide, who would go out to India. After considerable delay on the part of guides consulted, we received a letter from Dr Wills in May, while we were in Java, stating that Zurbriggen was in London, and would go. The matter was concluded by cable, and Zurbriggen, leaving Marseilles on 4th June, joined us at Srinagar on the 24th.

Mountaineering in the Himalayas is quite a different thing to mountaineering in Switzerland and the Tyrol. In the Himalayas, there are no villages and hotels within a few hours' distance of the summits, no shelter huts, where the climber may break the journey and spend a fairly comfortable night, no corps of guides, who in case of need are ready to render assistance.

In the Himalayas, the mountaineer must go, fully provided with mountain and camp outfit, many days' march beyond even semi-civilised villages, into the savage and trackless wastes, that surround the giants he would conquer. He must brave fatigue, wet, cold, wind and snow, and the effects of altitude, for the bases of many peaks rest upon buttresses, that are higher than the summit of Mont Blanc. Worst of all, he must wrestle with the peccadilloes of

the half barbarous coolies, on whom he must rely for transport, who care nothing for him or his object, and who are likely to refuse to go with him, as soon as any especial difficulty is encountered.

It has been asserted, that, aside from their altitude, the Himalayas are very easy mountains to ascend. Let no one cherish this delusion. Let no one suppose that the world's vastest mountain chain is fashioned on any such mild scheme as this. In the Himalayas are mountains of all kinds and sizes. Some can be ascended. Many more probably never will be by any creature without wings. There are perpendicular walls towering thousands of feet above the valleys, precipices descending into abysses, which the sunlight never penetrates, pointed spires and aiguilles piercing the loftiest clouds, so sharp, that they scorn the snowy mantle nature would throw around them, Matterhorns and Crépons, and Fünffingerspitzen many times magnified, vast fields of snow, arêtes and domes of snow crowning inacessible rock *massifs*.

The mountain flanks are constantly scored by avalanches of snow and rock, which thunder down at all hours of the day. Immense landslips are frequent, which fill the valleys and

FAN MOUNTAIN, BIAFO GLACIER.

[*To face p.* 4.

dam back the water from the melting snow, which later, bursts the unstable barrier thus formed, and tears downward, a living mass of water, mud and rock, with terrific force, carrying all before it and spreading devastation and ruin in its path. Against these, as well as the dangers of the glaciers with their enormous crevasses, the mountaineer must be constantly on his guard.

He, who thinks the Himalayas are mountain bagatelles, should go there and see for himself.

When travelling in the mountains, we make it a rule to start at daylight. The hour or two thus gained has never been found to come amiss, and, on many occasions, has been absolutely necessary to the accomplishment of the day's task. Unexpected obstacles may at any time be encountered, which cause delay, and opportunities may often be lost by late starts, which might otherwise have been improved. We have frequently had difficulty in getting our coolies off at so early an hour, having to contend with the custom of previous travellers of breaking camp at eight or nine o'clock.

We laboured under a great disadvantage during our Himalayan travel, in not possessing a sufficient mastery of Hindustani to talk freely

with the officials of the different tribes we were thrown among. Most of the *lambardars* and the higher officials speak Hindustani, though the people do not, and the advantage of being able to make one's arrangements directly with the chief men, and not through the medium of interpreters, who understand but a few words of English, and are difficult to obtain at that, is obvious.

A good knowledge of Hindustani may smooth the path of the traveller in many ways, and prevent misunderstandings, which act as serious obstacles to any important undertaking. On several occasions, could we have explained our plans properly to the native officials, we might probably have been spared coolie trials, which demanded the greatest firmness and determination to overcome.

We took out with us from England a three-inch Hicks Watkin Patent barometer, scaled to 24,000 feet, and another three-inch Hicks of the ordinary pattern. The Watkin was injured by an accident soon after starting on our expedition to Ladakh in 1898, and the Hicks so badly shaken up, that, although it continued to register, its work was at times erratic, and its readings were never used. The heights quoted for Ladakh, Nubra and

Suru are those given by other authorities as commonly accepted.

We ordered another three-inch Watkin Patent barometer, graduated to 24,500 feet, of Mr Hicks in August 1898, and received it at Darjeeling in September.

The altitudes during our expedition into Sikkim in October 1898, and that into Baltistan in 1899, were taken with this instrument, which, so far as we could judge, worked with remarkable precision. The highest pressures at all stations, where there was opportunity for taking a series of readings, and consequently the lowest altitudes, *i.e.* those most unfavourable to the upward aspirations of the ambitious mountaineer, are those adopted as probably approaching most nearly to the true altitudes. In a number of instances, the heights corresponding to its readings were considerably lower than those given by others and indicated on maps as presumably measured heights.

A good deal of confusion exists in the matter of Himalayan altitudes. Different writers assign different altitudes to the same points, and even those given on published maps vary. Many altitudes, which have been commonly adopted, were taken with aneroids

of old and defective construction, or with the hypsometer, the manipulation of which may occasion serious errors, and are undoubtedly too high. Again, each traveller, in the laudable desire to approach as near to Heaven as possible, is prone to take the most optimistic view of the workings of his particular instruments, and, in the absence of accurate survey, there is naturally a considerable discrepancy in the results.

As examples, the Sasser Pass is put down on most maps at 17,500 feet, but on one recently published it is marked 17,800. Also the Kardong has been estimated at from 17,500 to 17,800; it certainly appears to be somewhat higher than the Sasser. Another high pass has been placed by some travellers, who have been over it, at 18,000 feet; by others at 19,000, who thereby claim the distinction of having ascended a thousand feet higher than the former. One pass marked on the maps at 15,900 was measured by our Watkin at 15,425.

Aside from the peaks, which have been triangulated and fixed by the Survey of India and possibly a few other points, it is doubtful whether most of the altitudes given in the Himalayas can claim to be other than more

or less close approximations to the actual figures. We do not claim that our altitudes are exact, but, if the points to which they relate are ever fixed by survey, we think they will not be found to vary greatly from the altitudes given.

In the measurement of altitudes by aneroids, even of recent construction, there is one source of error, which has undoubtedly sometimes escaped attention, which may account for some of the discrepancies in the estimates of travellers. Sudden jars caused by a fall, the cutting of ice-steps or other violent movement on the part of the person carrying the aneroid, may induce a more or less serious permanent deflection of the index needle, that vitiates the work of the instrument until it is readjusted. We have known the readings of a barometer to be altered in this manner by a thousand feet.

Hence the value of several barometers, each carried by different members of a party, for the purpose of correction, should one happen to become thus disarranged. We carried our Watkin in the hand for long distances on descents, and on levels, where the way was rough and we were moving rapidly, to protect it from the jar, which the motion of the body produced.

Too great care cannot be exercised in handling aneroids, which require, if possible, even greater care than a watch. Certainly we have seen them disarranged by jars, that a watch will stand with impunity.

It is also not advisable to place them in one's luggage for transportation from place to place, for an index error is more than likely to be caused by the shocks incident to the rough treatment to which luggage is subjected.

Fortunately on our most important expedition to Baltistan in 1899, Zurbriggen had with him a three-inch Cary barometer graduated to 26,000 feet, which registered closely with our Watkin up to 14,000 feet. Above that height it lost slightly on the latter, indicating at 17,000 feet and above from 100 to 200 feet higher altitude, a slight difference at that height. Had one of these become temporarily disturbed, our standard would not have been lost. The average of the readings of these two barometers was taken as the altitudes of our mountain summits, two of which, Zurbriggen, by comparison with other more or less well-known neighbouring points, was inclined to place even higher.

A matter of interest connected with the Watkin was, that, in the great majority of

BIAFO GLACIER TOWARDS HISPAR PASS FROM OGRE CAMP.

[*To face p.* 10.

instances, during its two seasons of use six hours after arrival at a place it registered the same pressure as, or, a higher pressure than on arrival. In the few cases in which a lower pressure was indicated, snow, rain, or wind was sure to follow within twenty-four and usually within twelve hours. We were sorry we had no mercurial barometer with us to compare it against, to see how it might act as regards Whymper's law of loss of aneroids against the mercurial. It certainly did not, as a rule, lose on its own arrival record.

Temperatures were recorded with Hicks maximum and minimum thermometers, the readings of which coincided with those of the Government standards at Darjeeling.

We acknowledge with pleasure the valuable assistance of Colonel St George C. Gore, R.E., F.R.G.S., Surveyor General of India, and of Colonel H. H. Godwin Austen, F.R.S., F.R.G.S., in identifying features of our photographs with points fixed by the Indian Survey; also the kindness of Sir W. Martin Conway, M.A., F.S.A., F.R.G.S., in permitting the use of his Biafo map in the preparation of ours of the district from the Hispar Pass to the Skoro La and Koser Gunge.

Appended is a short glossary of foreign words.

CHAPTER I

Our Kashmiri *Khansamah* at Srinagar—The Ascent of Mahadeo —Our Madrassi Butler at Leh.

SRINAGAR is the starting-point for a number of interesting routes in the Himalayas; and is the most convenient place in Kashmir, in which to complete the final preparations for a mountain tour. We arrived there early in May 1898 with the intention of visiting Ladakh and Nubra.

Srinagar, its people, customs, and the details of preparation, have been so often and minutely described, that we will spare the reader a repetition of what is already familiar to him.

We will, however, devote a few lines to a tribute to our Kashmiri *khansamah* or cook, who was engaged for us by one of the agencies of Srinagar. He exhibited a number of *chits*, which, as is usual in such cases, gave him credit for a greater degree of efficiency, than he ever displayed in our service.

Servants' *chits* in all countries are deceptive, and those, who place reliance on them in engag-

LADAKHI COOLIE WITH DANDIE.

For use in case of emergency, which he carried 1,100 miles in the Himalayas with Authors in 1898.

[*To face p.* 12.

ing a servant, are likely to be disappointed. We have never yet had a servant, who has done for us, what he or she was declared in *chits* to have done for other employers. It may be, that servants have suddenly become incompetent while in our employ, or, it may be, that, in the enthusiasm for *chit* writing, their former employers have over-stated their capacity. Be that as it may, our experience has led us to believe, that a degree of moral courage, possessed by few employers, is demanded for the writing of a just and reasonable tribute to the character of a departing servant.

Our *khansamah* was a typical Kashmiri, with all the ways peculiar to Kashmiri *khansamahs* and a few refinements peculiar to himself. He usually, though with some lapses, took fairly good care of us. He invariably took excellent care of his own interests, even if the process involved the neglect of ours. He could neither read nor write English or his own language.

At the outset of our encamping life, several rupees were given him, and he was told to render an account and call for more, when they were expended. At the end of a week, no account having been rendered, he was asked if he still had any money, to which he replied,

"Yes, thank you." Being surprised that the sum given should hold out so long, we asked him if he was buying provisions on credit, to which question he gave a negative answer.

Two weeks later he presented a bill for food, many times greater than the sum advanced, itemised for each day, and written in a good English hand by one of the *munshi* hangers-on of the *bazaar*, who make a business of manufacturing bills to order and charge on the bill for their services. The daily items bore little relation to what had been furnished, and were charged at from three to six times the cost of such articles in the *bazaar*. Each day's account was the counterpart of that of every other day, and the account began two days too early.

The cook was called upon to explain, but the mutual linguistic limitations rendered this difficult, so, after a few questions, which were blandly answered by "Yes, thank you," we bethought ourselves of consulting the gentlemanly head of the agency, who informed us, there was no use in investigating the items of the account, that all Kashmiri cooks were knaves, and if the daily average did not exceed a certain amount, we had better pay the bill and say nothing; otherwise the *khansamah*

might leave us and it might be difficult at that season to obtain another.

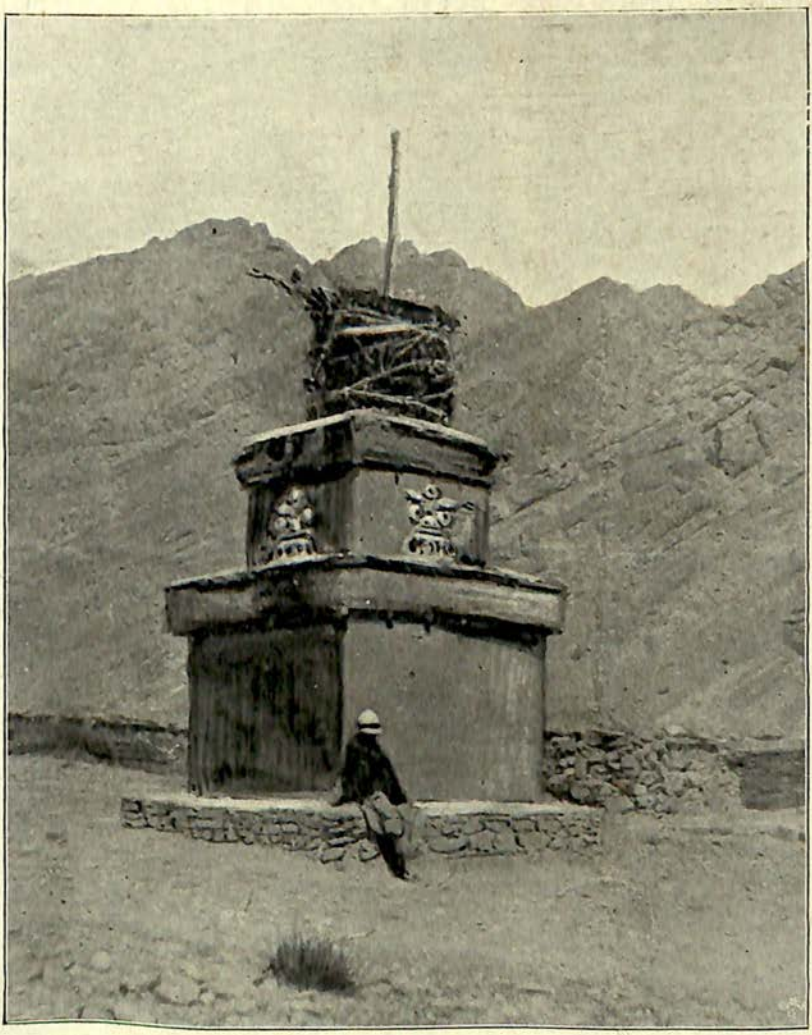
This method of doing business was a novelty to us, but, as we were in Kashmir to meet with new experiences, with some pruning of the account this advice was followed. Afterwards, with due deference to the fact, that Kashmiri *khansamahs* expect to realise a good perquisite on the amounts expended for their employers, we invented a method of arranging accounts with our *khansamah*, which cut his perquisites down from some five hundred to about one hundred per cent. on purchases for our account, with which profit he was so well satisfied, that he applied to enter our service again the next year.

While waiting in Srinagar we made the ascent of Mahadeo, a mountain a few miles north of the city. This mountain is about 13,084 feet high, and from its summit an extended view of the Vale of Kashmir and of the windings of the Jhelum is obtained, as well as not a bad view of the surrounding mountains. Nanga Parbat shows up above others to the north-west. Three days are required for the ascent. The first day we went by *doonga* to Shalimar Bagh, and thence on foot two hours to Panzgam Village, where

we encamped for the night. Leaving Panzgam the next morning at six, we ascended the rather steep grass and rock slopes to a grass-covered *maidan* at the base of the two summits. We reached the *maidan*, which lies at a height of 12,000 feet, at one o'clock P.M. Here we encamped.

Starting again at six A.M. we bore around to the right, ascended a ravine, in which lay considerable unmelted snow, and reached the top at half-past seven. Here we remained an hour, left our cards in a glass jar and then descended to Shalimar Bagh, whence we returned to Srinagar. A few Europeans only appear to have climbed Mahadeo, but it may attract more attention in the future, as it makes a pleasant three-days' excursion from Srinagar.

The journey from Srinagar over the Zozi La to Leh, the capital of Ladakh, some two hundred and fifty miles, is by no means devoid of interest, both as to the character of the scenery, the people and the monuments, but, for the reason above given in regard to Srinagar, we pass it by without comment, except to say that in early summer the Zozi La is about as disagreeable a pass as can well be found.



CHORTAN AT HIMIS, LADAKH.

[*To face p.* 16.

We reached Leh on the 27th of June, in time for the religious festival or miracle play, which was to take place at the Buddhist monastery at Himis, twenty-five miles east of Leh, on the 29th and 30th. Having witnessed the interesting and fantastic ceremonies of the occasion, some of which bore a close resemblance to rites of the Roman Catholic Church, we returned to Leh to prepare for a further tour up the Nubra Valley to the Kora-koram mountains and the frontier of Eastern Turkestan.

As no one of our servants spoke the language of the inhabitants of this region, we cast about for some one, who could go with us as interpreter and manager of transport. There was only one eligible person in Leh, who spoke both English and the Nubran dialect, and he, being at liberty, was at once engaged to fill the position.

He was an original character, well known to many inhabitants and visitors of Kashmir, and Leh. Although a native, he was honoured with the title of Mr —— we will call him Mr Paul ——; the servants called him Paul *Sahib*. He was a Madrassi and the expression of his face showed the sly, cunning characteristic of that race. He had, some years before, wandered to

this remote spot, and, for reasons best known to himself, settled himself here and married a comely Ladakhi lass, the daughter of a petty official. They seemed to be prosperous and were the possessors of a snug, well-furnished house. He always appeared in public dressed in European style, and his wife richly clad in native costume. Her *peyrac* or head-dress, falling below the waist behind and studded with turquoise, was one of the most elaborate in Leh.

There was something sinister in Mr Paul's reputation, which was never satisfactorily explained. On asking several of our English acquaintances, if they could tell us anything about him, they looked knowing and said, "Oh, is Mr Paul in your service?" One did add, "As he has been in disgrace lately he may serve you fairly well." Another advised us to make our contract with and payments to him in the presence of the *Wasir*. Stories of wife-beating and of other irregularities were whispered around Leh, but nothing definite or tangible was affirmed against him after all.

He named an unusually high figure for wages, in addition to which he stipulated for two ponies to carry himself and his luggage, and money for a suit of clothing for the journey, although,

beyond question he possessed an ample wardrobe. When an Indian engages to travel with you, be it for three weeks or six months, he always demands a suit of warm clothing and often a blanket in addition. He also always prefers money, with which to buy clothing, to the clothing itself.

If you give him the money, you will rarely afterwards see any evidence that it has been applied to the purchase of clothing, and the servant enters your service in the most destitute condition, so far as the covering of his body is concerned. In this case the money was paid, and Mr Paul accompanied our expedition resplendent in a uniform provided at the expense of some former employer.

Like many Madrassis Mr Paul counted himself a member of the Christian fold, and had been baptised with a Biblical name, which fact was a source of great anxiety to the good and self-sacrificing Moravian missionaries of Leh, who would gladly have been rid of him, since his reputation went far towards minimizing the slender harvest their patient endeavours had succeeded in gathering there. What we learned of him seemed to bear out the remark, which one hears in all parts of India, "Never trust an Indian, and least of all a Christian Indian."

Mr Paul did not have frequent opportunity to practise extortion upon us,—that was the province of the *khansamah*—but, when occasion did offer, he improved it with a zeal, which did great credit to his Christian profession, and showed he scorned to be outdone by his Mohammedan *confrère*.

When on the march, he served as the ornamental member of the party. Mounted on an active Nubran pony, with white Ellwood topie, tweed riding-coat, knickerbockers, gaiters, English boots with pointed toes, and English riding-whip, his smart appearance furnished us with amusement, and, doubtless, in the eyes of the natives, contributed in no small degree to the dignity of our caravan.

A WAYSIDE BUDDHA, NEAR LEH, LADAKH.

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CHAPTER II

Tibetan Yaks—The Kardong Pass—Through the Nubra Valley —Eccentricities of Baggage Ponies—View on the Route to Tutilak—The Sasser Pass—An Equine Graveyard.

HAVING secured this valuable addition to our menial staff, our other preparations were soon completed, and at noon, on 4th July, we left Leh to cross the Kardong Pass. We were able to procure only a few riding *yaks*, which animal is preferred in Ladakh and other neighbouring mountain regions to the pony, as being more sure-footed, and having more endurance. Most of our equipment was carried on ponies.

The route rises continuously from Leh to the pass, situated about ten hours' march to the north, and the last half is rough, boulder-covered and steep, which conditions, combined with the altitude, make the ascent a fatiguing one. We followed the custom of breaking the journey by encamping for the night at a spot four hours above Leh, at an altitude of 14,000 feet, from which the passage over the pass to the village of Kardong was made the next day.

At this point, we, for the first time, mounted *yaks*. In the course of the summer we had considerable experience with them. The *yak* is about as large as a medium sized ox, and resembles a buffalo, perhaps, more than any other bovine in shape. It is covered with long, glistening, black hair, which hangs from the shoulders, flanks, thighs, and tail in a shaggy profusion, that obscures all outlines. Its horns often curve forward so as to form an almost horizontal circle like those of certain beetles. Indeed, as the rider sits upon its broad back, and looks down on the massive shoulders and curving horns, he may easily imagine himself seated astride a huge horned beetle.

Its vocal utterance is a short low-pitched grunt, which, though seemingly threatening, betokens no ill-nature, for its disposition is mild. Its gait is easy, and it is very sure-footed. Moving with slow and measured tread and lowered head, the *yak* carefully selects a place for every step, and seldom puts its foot on an insecure stone or foothold. Often in passing boggy and treacherous places, our *yaks*, after examining the foot-prints of animals and men, who had preceded them and sunk in, would walk around the bad places, choosing in every case a firm foothold.

YAK FROM YARKAND ON THE KARDONG ROUTE.

[*To face p.* 22.

On steep mountain sides, we have seen *yaks* go in safety over places without a semblance of anything that could be called a path, which one would not suppose a large four-footed animal could pass, and where experienced mountaineers would tread with caution.

On the present occasion the *yaks* performed their part well. It was interesting to note that, although they are said in their natural state to range from 15,000 to 17,000 feet, above 15,000 feet they seemed to suffer quite as much from exertion and altitude as the human attendants, who were on foot, indeed, more so than some of them. At 17,000 feet and above, where the path was both steep and bad, only twelve to twenty steps forward could be taken without a rest, when the rapidity and force of their respiration were very marked.

We reached the top of the Kardong, 17,574 feet, towards noon, and stopped to look around. We had ascended from the south side between two mountain spurs, presenting nothing remarkable, and had encountered no snow. On the top, and for some distance down on the north side, lay a large snow-field. The view compared favourably with that from most passes. To the south, beyond Leh, some fine rock mountains were seen, while to the north three handsome

snow peaks loomed up in the distance with large snow-fields, from which rose impressive snow-covered walls. These were evidently mountains in the Korakoram Range, and appeared to be at least 25,000 feet high. Snow peaks rise on each side of the pass, seemingly 1,000 to 1,500 feet above it, which looked as if they could be scaled, and from which, in clear weather, an extended view ought to be obtained.

The descent was steep and rough, over snow and rock débris for some 2,000 feet, then easier till Kardong Village was reached at 13,500 feet. On the way two small lakes were passed, one of them, just below the snow-field, being remarkable, in that the water, as seen from above, appeared to be of several colours.

Edelweiss was found on the north side of the pass at an elevation of 16,000 feet, about the highest altitude at which we have found it growing. The plant was small, the stem being from one to two inches high, and the flower, about the size of an ordinary Swiss or Tyrolean edelweiss, being of a dull green colour, with a centre of somewhat lighter shade.

Also at 17,000 feet, in a wilderness of snow and rocks, far above vegetation of any kind,

WOMEN AT KARDONG VILLAGE.

[*To face p.* 25.

where nothing, that could serve as food for bird or animal could be detected, plump, well-nourished, slate-coloured pigeons, with white stripes across the wings, were flying about, evidently perfectly at home.

From Kardong Village the dusty path descends sharply, along the face of high cliffs of clay and glacial deposit of pyramidal and various fantastic shapes, to the bottom of the narrow valley, which it follows for a short distance, through a vigorous growth of tamerisk, to its opening into the broad valley of the Shayok.

We crossed the Shayok, flowing with swift current and billows two feet or more high, in a flat boat, at a point just above its junction with the Nubra River. The bed of the Shayok valley is here about 10,000 feet above sea level, and its width about four miles. Another hour's march brought us to Tsati at the opening of the Nubra Valley.

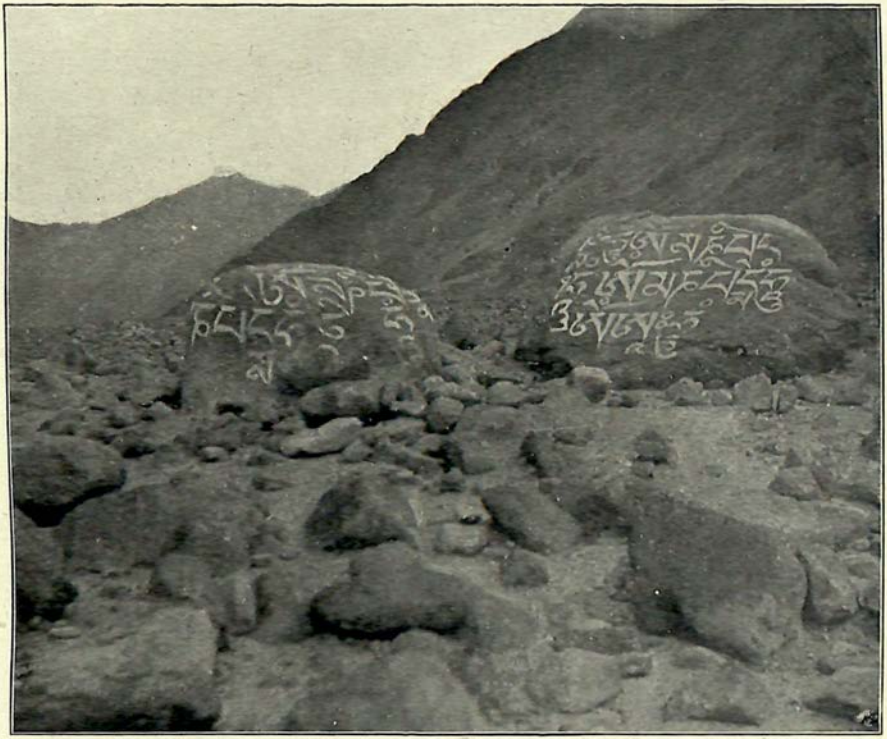
From Tsati to Changlung, some forty miles, the Nubra Valley is from two to three miles wide, and presents some features not seen everywhere in Himalayan valleys. The valley bottom is composed of alluvium, sand, and stones, over which the river flows in a broad bed with many channels and arms, which leave

the main stream at various points, and soon join it again, enclosing in their course numerous islands. The river is fed by many tributary streams.

Mountains rise on both sides abruptly from the valley in great masses, forming walls of solid rock; broken only by narrow side gorges, that strike directly into the heart of the range, dividing the facing walls into enormous sections with bases miles in extent. At intervals immense tali cover the lower part of the faces of the walls to a height of 4,000 to 6,000 feet above the valley. These tali, which are the largest we remember to have seen anywhere, show the abundance of the disintegration taking place above. The tops of these walls, as seen from the valley, have been estimated at 18,000 to 20,000 feet.

The silt and detritus brought down by the floods, that pour out of the gorges, have formed very perfect and symmetrical fans, that radiate out broadly from the narrow openings, and extend to the middle of the valley or beyond.

On these fans are situated the villages, scattered through the valley at the fertile spots, where the eye is refreshed by green oases clothed with grain and grass, willow, poplar, and fruit trees. The only other instance of



GRANITE MANI STONES NEAR PANNAMIK, NUBRA VALLEY.

[*To face p.* 27.

this fan formation on a large scale, that we have met with, is in the Shigar Valley, where it is quite as striking.

The bottom of the valley gradually ascends, and at Changlung is about 11,000 feet. Between Tsati and Changlung, outside the villages, the trail leads over long reaches of sand interspersed with rock débris. Many streams have to be forded, some of which are impassable after mid-day. In a rock wilderness between Pannamik and Changlung, several large granite boulders, rounded by glacial action, are passed, whose smooth surfaces are covered with skilfully cut *Om Manis*, and other Buddhist prayers.

Near this point some excitement was created among the servants by the appearance of a wolf, which trotted away, just ahead, over a sand waste. This was the only wild animal of any size, excepting jackals, that we saw during our wanderings of that summer in the mountains of Ladakh, Nubra, and Suru. This, together with the fact, that few of the sportsmen, we met, had any trophies worth mention to show, seemed to indicate, that large game is becoming scarce in these parts of Kashmir.

The lack of game here recalled to mind some of our observations when cycling in the mountains of Sicily in 1893. We met everywhere

sportsmen with fowling-pieces, indeed so many, that the chase appeared to be a national amusement, but we saw no winged creature larger than butterflies for them to expend their powder on. In their zeal these Nimrods had exterminated, apparently, even the sparrows. The birds, which were occasionally served at meals were so diminutive, that we were obliged to put on our eye-glasses to distinguish whether the objects on our plates were birds or insects. As the enjoyment of birds of this class is somewhat proportioned to their size, it might be found to be an advantageous gustatory expedient, when one is obliged to eat them, to deceive the palate by the use of magnifying glasses.

At Changlung, the upper route over the Sasser Pass to Yarkand and Central Asia, one of the highest trade routes in the world, and open less than three months in the year, leaves the Nubra Valley and strikes up the steep eastern mountain wall. This route passes through a grand Himalayan region. From it can be seen, it is true, none of the four chief giants, but mountains of the respectable height of 21,000 to 25,000 feet lie all around, and present a complex of form, outline, colour, tali, precipices, glaciers and moraines, desert river

valleys and yawning chasms, that can fully satisfy the demands of the most exacting human mind for the beautiful, majestic, and sublime.

As the route for several marches passes through a perfect desert, Mr Paul was commissioned to buy sheep, fowls, and a plentiful supply of eggs. The advisability of taking wood also with us was suggested to him, but he said that was not necessary, as we should find *boortsa*, an aromatic shrub, at all camps, and this would serve us for fuel.

On the morning of 9th July, we left Changlung. The path led directly up the steep incline, zigzagging among rocks and projecting boulders in the most tortuous manner. Our baggage was carried by three *yaks* and a dozen ponies, most of the latter being angular, half-starved, wretched-looking beasts, with tempers to match their appearance. The barbarian drivers were none too attentive to their duties, and the ponies, left to themselves, were constantly throwing their loads, or jamming them one into the other, or smashing them against projecting rocks, until, after a few days of this treatment, the integrity of many of our baggage coverings became so impaired, that they could not properly protect their contents, and the

amount of available camp furniture was greatly diminished.

On this route, as also previously, we noticed, that, for some unexplained reason, Mr Paul's baggage ponies always treated their loads with great consideration, and never threw them nor smashed them against the rocks. Also, of course by accident, he invariably secured a better mount than we did, so that we frequently found it to our advantage to exchange ponies with him shortly after morning starts were made.

On this barren mountain-side, as in many other similar places in Ladakh, where not a drop of water, nor a sign of moisture or of any other vegetation could be seen, the desert monotony was often relieved by luxuriant wild rosebushes, so covered with blossoms of every shade of pink, from faintest pearl to deep crimson, that stems and branches could scarcely be detected. The toneless surroundings enhanced the brilliancy with which these beautiful colour gems flashed upon the eye.

After four hours of constant ascent, we reached a pass at a height of about 14,000 feet. Here a glorious view opened before us. To the west towered the mighty mountain tongue, which, projecting from the north, separates the

YARKANDI WOMAN IN HER GARDEN AT LEH.

[*To face p.* 30.

Nubra from the Shayok Valley. Its lower portion, for several thousand feet above the valley, presented every variety of colour, from the *café au lait* of wide bands of clay interspersed among the rock slopes, through many shades of brown, grey, and red, to rich maroon and purple. From the general level of this colour complex, perhaps 20,000 feet, shot up 3,000 to 5,000 feet higher, peaks of every imaginable size and shape. Some of these were cones wedges, and pyramids of solid dark blue and purple rock, with jagged apices, whose sides were so steep that snow would not lodge on them; others of greater size, covered with eternal driven snow-fields running down into glaciers in the angles between the slopes, shone before us in dazzling splendour in the wonderfully clear air, undimmed by the slightest suggestion of haze.

Below, stretched for miles the broad Nubra Valley, barren and desert except for, here and there, an oasis of green, to relieve the dreariness of the sand flats, over which the mud-tinged river pursued its course in many streams. To the east we looked down about 3,000 feet into a valley, dismal as the Valley of the Shadow of Death, without a green thing of any kind to vary the dead desolation. Over this valley on

both sides hung a series of light brown precipitous mountains, whose serrated tops rose to a height of 18,000 to 20,000 feet.

In descending into this valley, on the north side, we were obliged to pass for some distance over a steep, gravelly slope, where the path was just wide enough to place the feet. It seemed as if the shifting gravel might at any moment slide away from under us, precipitating us to the bottom of the valley far below. This place might be dangerous to any one inclined to giddiness. The path led some miles further along the river over sand, rocks, and through water to Tutilak, a meadow covered with short grass, on the river bank, at the foot of a large glacier, where we encamped.

The following day we ascended between grand mountain walls to the foot of the Sasser Pass, and encamped on a small piece of meadow covered with short scrubby grass, at a height of 15,600 feet. This spot, like the whole region we had traversed for the last two days, was surrounded by vast mountains of wild and rugged grandeur, while in front the end of the huge Sasser Glacier rose before us.

The temperature had now become chilly, 40 degrees Fahr., and the wind uncomfortably strong. We ordered the cook to bring hot

WOMEN LANDOWNERS OF LADAKH, ONE WITH BOW.

[*To face p* 32.

water for tea. He soon appeared minus the water, holding in his hand several pieces of rubbish and dried grass picked up near by, which he mournfully said was all the fuel that could be obtained, turning them meanwhile with a disgusted expression from one hand to the other, and the supply of these was limited. He had not been able to heat any water.

Mr Paul was at once summoned and asked, where the *boortsa* was, which he had promised. He replied they had not been able to find any here. Calling to mind the oft quoted remark about not trusting an Indian, we duly reprimanded him for his negligence and told him, to send out coolies to collect as much of the first named apology for fuel as possible, to cook the dinner with, and to send back for *boortsa* or wood.

Toward evening the wind increased, till it blew almost a gale, so that the *khansamah* was obliged to make his oven for cooking the dinner inside his tent, which was soon filled with the suffocating smoke of the wretched fuel. As a result not only the soup, meat and other viands, but even the plates and drinking cups were so strongly impregnated with the pyroligneous odour, as to destroy all satisfaction with the meal.

During the night the temperature fell to 30 degrees Fahr., and there was a considerable fall of snow. The cold together with the altitude caused the death of several of the fowls, which fact did not trouble us greatly, as, on investigation we found all those furnished by the *Lambardar* or village chief at Changlung, were game cocks with spurs over an inch long, indicating an age which rendered them useless for anything but soup. Also one of the ponies, which was ailing the day before, died, but we were, fortunately, able to replace him the next morning by a *yak*—called by Mr Paul a jungle *yak*—that was wandering without any master on the mountain-side.

The path to the pass winds up the steep terminal moraine of the glacier to a high overhanging wall of ice, under which it runs for a short distance and then ascends on the lateral moraine, from which ever and anon large stones come rolling down. One passes under that overhanging wall with an uncanny feeling and keeps a sharp look-out for stones from above. Then the path leads on to the glacier itself, over places so covered with rocks and detritus, that no ice can be seen, through ice ravines with small rivers flowing along their bottom, up and down over ice hillocks, into

valleys, past ice lakes, till, finally, after a three hours' climb, it brings one to a vast field of ice and snow covering the whole space from the mountains on one side to those on the other. A short scramble up the steep side brings one to its upper surface, comparatively smooth, where the grade is easy for the next mile. Then comes a descent again to the lateral moraine, and another steep ascent to the glacier, at the top of which the highest point, 17,500 feet, is reached.

From the valley below, over the pass and on to Sasser, both sides are walled in by gigantic ragged peaks, seamed and rent by enormous chasms, which with the glacier and moraines form a grand though desolate picture. Behind, towards the west, is a group of snow mountains, from 21,000 to 25,000 feet high, of impressive size and beautiful shapes. The descent to Sasser, 2,000 feet below, is of about the same nature as the ascent.

The day was cold and the wind strong and biting. When we reached the top of the pass we sought the shelter of a large boulder near the middle of the glacier, which afforded partial protection from the wind, drew our Tyrolean *lodens* closer around us and ate our *tiffin*, after which our Ladakhi attendants eagerly

seized the empty tins. These pig-tailed Mongolians, as well as other natives of the North, gladly appropriate empty food tins, bottles, pictures and tin foil from chocolate, and other stray bits from the *tiffin* basket. The tins and bottles fill a very important place in the domestic economy.

From Changlung over the Sasser Pass and down to Sasser, a three days' journey, the pathway is strewn with many fresh carcasses, and the bleaching skeletons of thousands of ponies fallen by the way. These afford plenty of occupation to the vultures, which strip the bones of every particle of soft substance, leaving them white and clean. Any one desiring to investigate the bony anatomy of the pony could not do better than to encamp for a few weeks in this equine graveyard, where abundant material for study and comparison may be had ready at hand.

In some places these skeletons cover the ground in groups of twenty to fifty, in much the same manner as might be seen after a severe battle, at points where cavalry or artillery have been stationed, and, lying in various attitudes, present a ghastly spectacle unpleasantly suggestive of what sometimes happens, under certain circumstances, to human

beings also in this elevated desert. We saw no human skeletons, but an Englishman, who had been over the route, told us he saw two.

Scarcity of food, the exhaustion caused by the difficult paths, cold and the tenuity of the air at this elevation prove fatal to many caravan ponies during the three months this route is open. The greater part of the trade to and from Yarkand and Central Asia passes over a lower and longer route. Cold storms and a freezing temperature may overtake the traveller over the Sasser at any time, and he, who comes here, must be provided for these exigencies.

The route after Sasser passes over Branga Sasser in three marches to the Dipsang Plateau, 17,800 feet. Thence the Korakoram Pass, 18,300, is reached in two marches. The chief interest of the route after the Sasser Pass is, the height at which one is travelling, and the uninhabited plain. The scenery reaches its culmination on the Sasser.

CHAPTER III

Further Wanderings in Gompa Land—A grand Pass through a Sea of Asiatic Dolomites—The Ascent, with Zhos, of the magnificent Kangi La—The Red Mountain—Descent into a Flower Paradise—Charms of the Rangdoon Valley—Under the Shadow of fantastic Noon Koon—Over the Bhot Kol Pass—The Wardwan Valley and Return to Srinagar.

WHILE at Leh we planned to return to Srinagar by way of Kangi, the Rangdoon Valley, Suru, the Bhot Kol Pass, the Upper and Lower Wardwan. To reach Kangi, it would be necessary to leave the main route beyond the Fotu La and strike over the mountains.

We consulted the *Wazir* and the *Naib Wazir* at Leh, but, as usual, could learn nothing of the route from them. The *Naib Wazir*, who was a very smooth-spoken individual, promised to write an order in advance to the *Lambadar* of Lamayuru, to provide us with a *shikari* who would know the route, and *yaks*.

We left Leh on 24th July. A military

WOMEN OF LEH, LADAKH, SHOWING PEYRAC.

[*To face p.* 38.

sportsman remarked to us, that, when he went to Ladakh for shooting, he put through as fast as possible from Srinagar to Leh, the journey was so exasperatingly stupid. This brave Britisher's eyes were doubtless better trained in searching for *ovis ammon* than in detecting the exquisite colouring and weird loveliness to be seen in the verdureless mountains after passing the Zozi La, of both of which there is plenty.

It seemed to us, that the scenery between Leh and Lamayuru had increased in charm since we had passed that way. The season had advanced. Large valley tracts, that six weeks before had been sandy and stony wastes, were now sprinkled with purple asters. The mosses and lichens upon the mountain sides had ripened. The region was a continued colour refrain, sounding the whole day in different tones of *écru* to seal brown, from lizard green to olive, from faint coral to rich red, and from pinkish mauve to deep purple. These colours playing upon grand, beautiful or fantastic mountains, or falling aslant the oases dotted valleys, produced a changing scene, it was never possible to tire of.

Of the Ladakhi villages one comes upon, hung effectively upon barren cliffs, Bazgo is

one of the most characteristic. Approaching it from Leh, you gradually descend from an elevated plateau to the village, lying in a tiny oasis of irrigated fields, under the shadow of a wild sandstone mountain. The old town and *gompa*, built of the same stone, cling to the mountain slope in a rough and tumble manner that is eminently picturesque. Glowing in the flush of red light at sunset, it becomes a veritable *ciudad encantada.*

When we arrived at Lamayuru, the *Lambadar* said he had received no notification from the *Naib Wazir* of Leh, and that no *shikari* was to be had. He however provided us with *yaks* and coolies, who claimed to know the way over the mountains.

On the 27th of July, after recrossing the Fotu La, we turned southward about noon, and, passing a wide, dry *nullah*, struck into a narrow gorge walled in by perpendicular precipices. The path followed a torrent, which so filled the gorge, that we were obliged to ford it frequently.

The *yaks* went on composedly, but the increasing depth and power of the water soon made it evident, that we were playing a losing game and should not be able to get through. The water reached to their shoulders and

splashed their backs. The baggage began to suffer, and, although we maintained our perch in the saddles with raised feet, the latter were often under water.

So we gave up the attempt for that day and encamped in the dry *nullah* near the mouth of the gorge, hoping with an early start to meet with better success the next day. Contrary to the customary code of glacial streams, this one proved to be deeper, more muddy and turbulent than before, when we attacked it at five-thirty the following morning. As there seemed to be no hope of negotiating that passage, we turned and marched six miles to Kharbu, whence we were told, a high, not often travelled route led over the mountains to Kangi. The *yak-walas* refused to go beyond Kharbu, so we were obliged to content ourselves with ponies, which the Kharbu *Lambardar*, after considerable parleying, furnished.

At ten o'clock everything was ready, and we started on ahead up the valley, which was here open and covered with grass and flowers, telling the *khansamah* to bring along the the train as rapidly as possible, so that we might get over the pass that day. That individual, however, after telling the pony-*walas* to start, remained behind, as he often did, when opportunity

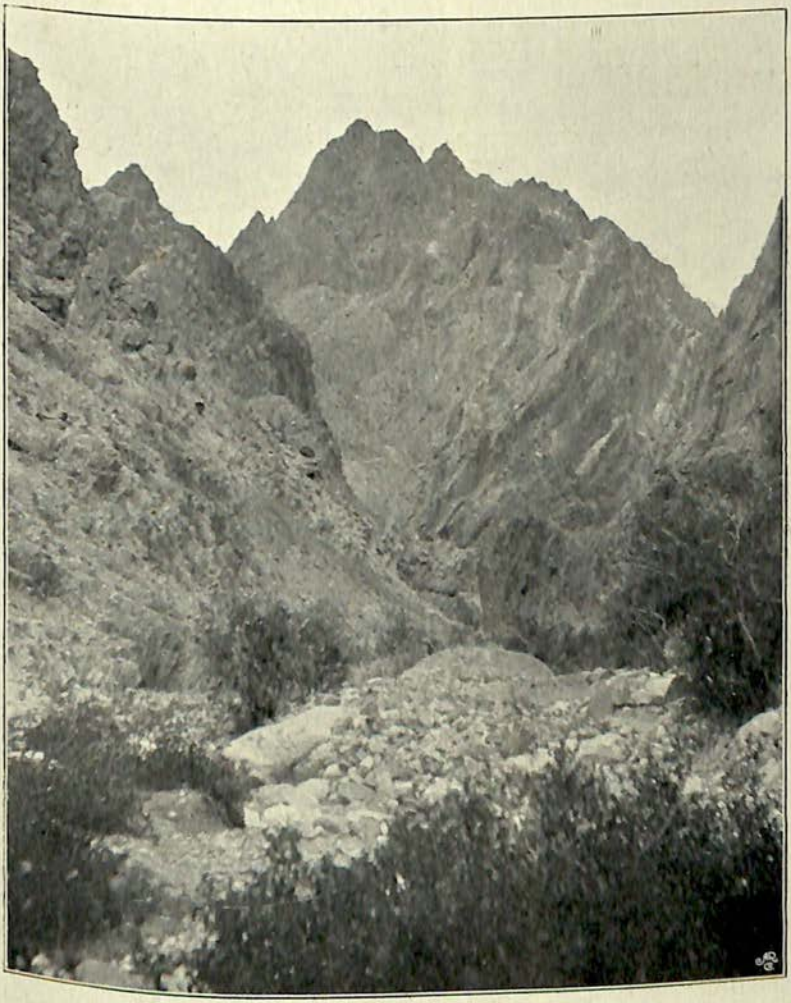
offered, to smoke and hobnob with the *Lambardar*.

On this occasion he must have indulged in something stronger than tobacco or water. The pony-*walas*, having no one to urge them on, allowed their ponies to stop to graze, and it was twelve o'clock, when the *khansamah* appeared with the last of them, himself in a very boozy condition, at a point about two miles from Kharbu, where we were waiting.

A grand rock-bound valley was soon entered, which ascended rapidly as we advanced. The scenery from here on was of the sublimest rock order. We plunged into a nest of exquisitely shaped and coloured dolomite-like peaks, rising detached and in groups to a height of 18,000 to 21,000 feet, intersected by deep narrow valleys dotted here and there with patches of trees or rosebushes; but these valleys were short and culminated in stony ridges connecting adjoining summits.

The path now left the ravine bed and wound up a steep slope leading to the pass ridge, which stretched between two unassailable needles. The work was of the roughest, and both men and ponies had to put forth their utmost exertions to make headway.

Here, with our *tiffin* coolie and a tent servant,



VALLEY IN ASIATIC DOLOMITES BETWEEN KHARBU AND KANGI, IN LADAKH.

[*To face p.* 42.

we again got ahead of the caravan. After climbing for two hours, we looked back and saw, through our Zeiss glass, the *khansamah* and pony-*walas* lounging on a grassy shelf a good thousand feet below smoking, and the ponies grazing unloaded. We called to them through the still air to come along, and, after a while they started again, but with slow and uncertain movement.

We pushed on up a long, trying stretch of screes, where we were obliged to climb the pathless slant in zigzags. Then came a zone of rocks and boulders, that gave us some good rock work. The last half-hour, the slope was covered with a fine soft detritus, into which our feet sank to the ankles. We could here take but a few steps at a time without pausing for breath. At 5 o'clock P.M. we stepped panting upon the ridge, that formed the pass, at an elevation of about 16,000 feet, after one of the most trying scrambles we have met with.

Behind, the wall, over which we had climbed, fell away rapidly to the bottom of the narrow valley, 3,000 to 4,000 feet below, through which wound a silvery stream. The valley was enclosed on both sides by ragged *massifs*, tipped by towers and pinnacles of airiest form. Behind these rose a spiry wilderness in tints, varying

from *café au lait* to deep slate mauve, as the light of the lowering sun chanced to strike them. To the west, where our route ahead lay, the scene repeated itself in a similar multitude of trackless heights, wild, riven and treeless, a grand and ethereal Garden of the Gods, of which the Tyrolean Dolomites can offer only a suggestion. Looking down from the pass ridge to the immediate foreground, no path could be seen, only another wall descending almost sheer to a rock arête. Far below glimmered, like a mirage, a narrow green snake-like *nullah*, which wound up between two high mountains in much the same way our route had done.

We looked for our train, and discovered it, through the glass, crawling slowly along 1,500 feet below. It was now six o'clock, too late to expect more, so, leaving the glories of the upper world, we retraced our steps, and joined the laggards on a slope near a small stream, where we passed an uncomfortable night.

Tents were struck, and we were off at 5.15 A.M. on 29th July. When the rock zone was reached, the ponies were unloaded, their loads were divided and carried to the top of the pass by the drivers, who then returned, and with some difficulty brought the animals up. We ourselves

reached the top at 7.15, and suffered a good deal from the cold wind, while waiting for the ponies. When the servants' tent arrived, about eight o'clock, we had it pitched for a shelter.

It was near ten o'clock before the ponies were brought up, but we considered ourselves fortunate in having *walas*, who could coax them up such a pass. The descent was rough and difficult, but, being a descent, was managed in time, although not without some detriment to our household gods. The march, after leaving the steep ridges, was through gorges and cañons more wonderful even than those of the previous day.

Up to noon there seemed to be no outlet to these great gorges, but soon afterwards, while following the bed of a stream, a bend was made, which brought us into a wild valley, that led to Kangi. Having forded another turbulent stream four times, we arrived at Kangi Village at two o'clock.

Kangi lies in an opening between the mountains at the meeting point of four valleys. High dolomitic peaks surround it on every side, with precipitous walls running up several thousand feet, showing every variety of colour and banded broadly with different strata, that twist and turn in all directions.

On 30th July we left Kangi at 5.45 A.M.

Our transport animals here were *zhos*, which are a cross between the *yak* and the domestic cattle of the country. They resemble the *yak* in appearance and characteristics, but have shorter hair. Like the *yak* they are unpleasantly slow on levels, and took five hours to travel eight miles to the foot of the Kangi Pass. They stood us in good stead though later, as this proved to be the second hardest and most snowy pass we have crossed with animals in the Himalayas.

Leaving the valley the path zigzags up the steep side of a rounded hill, and is just wide enough for the *zhos* to place their feet on. It required considerable courage, accustomed as we were to trust to our own feet on such places, as well as some skill, to keep in our saddles, and we had practically to embrace the animals' necks to keep from falling backward; but our *zhos* were calm and surefooted, and took us without a mis-step to a high plateau over the brow of the hill, which led across to a glacier. Here we dismounted and made the remainder of the ascent on foot.

While on the glacier, the weather, which had been threatening, became bad, and we were enveloped in a dense, damp snow-storm for over an hour.

The glacier terminated in a steep slant of soft snow, in which the animals sank to their shoulders, and floundered most discouragingly. Their drivers worked hard, guiding, tugging and pushing, and at 3.30 P.M. we reached the top in safety. The task was not an easy one at 17,000 feet, which is the height assigned to this pass.

The storm passed and the clouds broke, revealing a partial view of furrowed snow mountains towards the Noon Koon range in Suru. The most remarkable feature of the view was a mountain *massif* in the foreground across the valley, which, with a base five or six miles in length, rose from a height of about 13,000 to 17,000 or perhaps 18,000 feet. This mountain, which was but a spur of more lofty heights, seemed to be composed of a homogeneous, uniformly red, clay stone of the shade of cochineal.

Its base, for about a thousand feet above the valley, had a beautiful green covering of grass and flowers, which, shading off imperceptibly into the red, as the vegetation became scantier, harmonised most effectively with the latter. Then came a zone of pure cochineal, shooting up into three rounded summits, each capped with glistening snow. The contrast of the red

with the green and white, and with the grey and brown of neighbouring mountains, was striking in the extreme.

The descent was less snowy but long and fatiguing. Several small glaciers were crossed, and two glacial streams, spanned by ice bridges strong enough to bear the weight of the loaded *zhos*. We made our way down over loose rocks, slabs and rubble, to about 14,000 feet, at which height at 7 P.M., after a fourteen hours' march, we were forced to encamp on a sloping grassy nose, where our attendants made platforms for the tents by digging out and piling up the earth.

The next morning we continued downward over a bad path, crossing a stream many times, to the main valley leading towards the Rangdoon Monastery. There was little fine scenery, but the high valley might be called the vale of flowers. For miles we wandered through a waving, nodding paradise of wild pinks, tall deep blue forget-me-nots, large blue-bells hanging in great clusters from single stems, pink and white daisies, red and yellow orchids, edelweiss, wild geranium, fragrant blue and purple columbine, dandelions, rhubarb with small red leaves lying close on the ground and brilliant red and yellow blossoms, purple aconite, and a host of others, whose names we did not know.

Moore sings of the Vale of Kashmir and its fountains and flowers. Had he but travelled farther, he would have reached the real land of flowers in the Upper Rangdoon and Wardwan valleys, where to do justice to the myriad rubies, sapphires and pearls of nature might defy even the silver tongue of poets.

As Rangdoon is neared, the carpet of flowers is left behind, and a dreary length of sandy, stony river beds must be traversed, over which the *zhos* drag gruntingly along, for in such places, these useful animals, like Swiss guides in the plains, are quite out of their element.

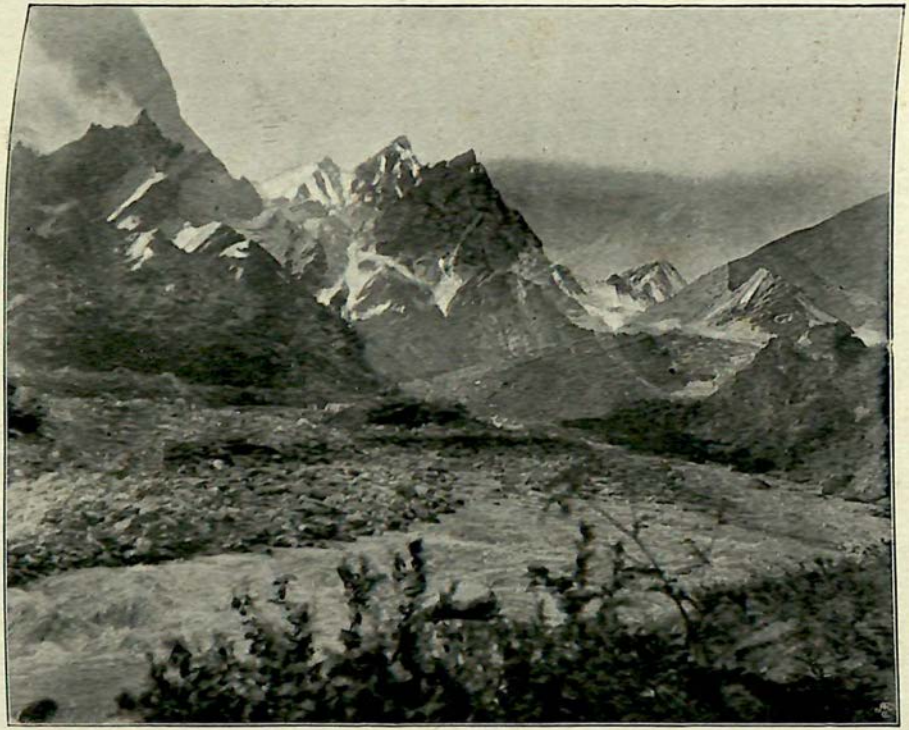
Rangdoon is a desolate spot in a wide valley at the meeting point of several routes. It has a large *gompa*, at the foot of which is a small *maidan* for encamping. Edelweiss and other charming flowers were growing inside and before our tents to cheer us during our short stay. Two or three times we were awakened in the night by shrill and penetrating blasts from the shawms of the monks at the monastery above, which, combined with the soughing of the wind, produced an uncanny effect in the midnight watches.

On 1st August, leaving the Rangdoon Monastery at 5.40 A.M., we marched over Goolmatoonga to Purkutse, through the Upper Suru

or Rangdoon Valley. Switzerland has no valley comparable to it, nor, in the Himalayas does any other we are familiar with, resemble it in combined attractions. As far as Goolmatoonga it is wide and green, blanched here and there by fields of gigantic edelweiss, with distant views of the Noon Koon and other high peaks.

After Goolmatoonga it narrows, winding around the base of the Noon Koon range, from whose towery peaks it is separated only by a tearing foaming river. The Noon Koon range is the chief mountain feature of Suru, as that of Mount Blanc is of Savoy. It is an isolated group of summits mostly of aiguille form, the two dominant peaks of which, called Noon and Koon, rise like fairy spires, narrower than the Matterhorn, to 23,400 and 23,540 feet respectively.

They show a combination of pale rose-coloured rock and snow, and a curious feature is, that snow lodges and lies on their precipices, where in other regions it would not remain. This is due doubtless to a difference in climatic conditions. The tip of the highest peak shoots heavenward like a glittering white scimitar from the group of its sister needles. Rock-climbers unable to find untrodden goals in Europe might



PART OF NOON KOON RANGE FROM RANGDOON VALLEY.

[*To face p.* 50.

well try their prowess on the wild scarps of the Noon Koon above 20,000 feet, which until now have escaped the cupidity of Alpinists.

The path now descending to the river now rising again over dizzy cliffs, leads on amid increasing obstacles towards Purkutse. Concealed glaciers among the mountains on the right bank of the river send down such volumes of water every mile or two over the track, that fording without ponies is next to impossible. Otherwise ponies might be dispensed with, the route, as a whole, being easier for coolies. About four miles from Purkutse a huge cliff with convex surface rises directly out of the river, which requires careful negotiation. Here the ponies were sent back, while coolies, whom we had brought with us from Goolmatoonga, shouldered our kit for the remaining distance.

The coolies were very expert in handling this cliff, which jutted out sheer over the seething torrent, that roared beneath, and afforded but slender footholds with scarcely any handholds worth the name. It was a creepy place to pass over even with assistance, and, had a mis-step been made, the torrent would have done the rest quite as effectually as a thousand feet of precipice. The fact, that the coolies could pass over it with loads, is another proof

of what we assert several times in these pages, that these men of the hills are mountaineers of no mean order.

The Noon Koon group became more varied and fantastic in outline, as we passed around its base. Summits first seen disappeared and new ones took their place, but above all cropped out again and again the two culminating sabres, piercing cloud and sky with golden and silver points. It was about sunset, when, after surmounting a number of rock obstacles, we came to a stretch of sand, which led up under some high cliffs.

Here Noon Koon rises in concentrated majesty. For the first time, a little on the right, a beautiful snow pyramid appears, to supplement the group, below which the Purkutse glacier with stupendous *séracs* descends. This ends abruptly in an ice wall two or three hundred feet high, pure and white, of great landscape effect, barring with its unassailable barrier the crevassed highway to the eternal snows above.

From ice caves below this great wall, a mountain torrent issues with deafening onslaught, voicing in a cadence of thunder the exultation of nymphs, *nagas* and mountain gods. About this mountain world the spell of dusk

NOON AND KOON, 23,400 and 23,540 FEET, FROM PURKUTZI PASS.

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was falling, as we marched the last two miles up the rambling path to the village of Purkutse on the hillside facing Noon Koon. Camp was pitched by faint moon and lantern light, as the coolies straggled up after the long day among the rocks and roaring torrents of the Upper Suru.

The next day we crossed the Purkutse Pass 14,000 feet, commanding a glorious view of Noon Koon and its satellites, thence descending to Suru, which was reached about noon. Our luggage was taken by the coolies over a lower, easier route, and, for the very reason that it was easier, they paid no heed to time and arrived long after we did. Human nature in these wilds does not differ essentially from so-called civilised human nature, which, when there is little to be done, does it badly and is a long time in doing it. If one wishes a piece of work well done, it is generally advisable to give it to some one who is, as a rule, busy.

While we were waiting for the arrival of the coolies, the *Lambardar* very thoughtfully brought us a brass drinking vessel of milk and a cabbage, with which to satisfy the cravings of our appetites.

Suru consists of several villages scattered

about the valley, which here is wide, well-watered and fertile, and, at the time of our visit, was covered with fields of waving grain nearly ripe for the harvest. The place is not attractive, and, aside from two snow summits of the Noon Koon, seen over the lower hills, the mountains, though by no means low, appear tame to one coming from the wilder regions beyond.

The inhabitants differ considerably from the Ladakhis to the north and east. The expression of their countenance is duller, and their costume is devoid of taste, colour or anything distinctive. They resemble the Kashmiri somewhat in type, but are smaller in body and feature.

Prices in Suru were high, as they are said to be always, and we paid the highest price ever demanded in the Himalayas for the chicken that furnished the *pièce de résistance* of our dinner that evening, viz. eight annas, the usual price being from two to four annas.

We left Suru with coolies as baggage carriers to cross the Bhot Kol Pass with its miles of glacier. We followed up the Chiloong River on a good path for ten miles to a point, where the path to the Bhot Kol turns south from the main route. Here we forded the river and shortly came to a grass-covered *maidan* at the

A TRIBUTARY OF THE BHOT KOL GLACIER.

foot of the Bhot Kol, called Dunore. This is the last camping ground before the pass.

Owing to confused directions in a local guide-book, which briefly mentions the Bhot Kol route, but confounds it with another, we went on toward the pass expecting to find a good encamping place higher up, though the region had a forbidding aspect; but, as happened also to acquaintances of ours who have crossed the Bhot Kol, we soon found ourselves stranded on the barren lateral moraine, without wood or water, between the glacier and the steep mountain wall, in a place quite different to the "good camping ground" described in the guide-book, and were obliged to retrace our steps to Dunore, where we pitched our camp as the twilight shadows deepened into darkness.

The next morning we were off at 5.15. We followed the lateral moraine for about an hour and then struck on to the glacier, which ascends quite gently to the pass. Some fine mountain walls are passed on both sides and a glacier, much broken, tumbles steeply down between handsome shaggy peaks to join the Bhot Kol on the west.

After four hours of ascent over some eight miles of glacier we reached the top of the pass, 14,370 feet. This consisted of a broad belt of

ice spanning the whole space from mountain to mountain. How an ice mass of this magnitude and solidity could be formed at this point, from which the glacier descended in a broad sweep on both sides, was not obvious, for, although the mountains rose two to three thousand feet above the pass, the amount of snow at that time, 4th August, on their slopes did not seem sufficient to form such a glacial head, and no other source of origin appeared except the accumulation from winter avalanches.

From the top the descent for about half an hour was quite steep, till we came to the junction of another glacier with the Bhot Ḳol. The former came down from a large snow basin surrounded by extensive snow summits. From here the glacier descended with a gentle and uniform gradient to its end, some four hours' march below. It was, notwithstanding, difficult to traverse on account of a succession of crevasses for about one-third its course, some bridged, some not, many of them a quarter of a mile and some half a mile in length, and over two hours were consumed in threading the intricacies of this crevassed portion.

Below this for the last three or four miles the ice was covered thickly with débris, and its surface was watered by a network of rivulets

all converging on the stream, which issued from its end.

The Bhot Kol is noteworthy, in that it presents such extensive glacial formation at the comparatively low altitude of 12,000 to 14,000 feet, with no surrounding heights approaching 20,000. The snow basin near its upper end would do no discredit to an altitude of over 20,000 feet.

We got off the glacier at one o'clock P.M. and by five reached a wide meadow covered with tall grass, where we encamped. The next morning our tents were as wet from the heavy dew precipitated during the night, as if they had been rained upon for hours, and the grass bent beneath the weight of the crystal dewdrops with which it was silvered. This was the first time, in over two months, we had met with any appreciable amount of dew. Marching off in the early morning, in the knee-high wet grass, which indulged our lower extremities with a bath at a temperature of 40° Fahr. was not a delightful experience.

Much might be said of the charms of the Upper Wardwan, which with its side valleys abounding in fine peaks, ought to be more attractive to those who wish to indulge in

lower mountain travel than the much praised Sind Valley. In July, August and September it also offers a varied field for study to the botanist.

About seven or eight miles below this camp the Upper Wardwan Valley ended, and the path now dropped rapidly through a forest of white birch, or, perhaps we should more correctly say, the remains of a forest, for the trees were much broken. These were the first trees we met with on the Kashmir side, and this was the first forest we had seen for three months.

After quite a long descent we entered the Lower Wardwan Valley. The hills were now covered with spruces and *deodars*, and took on the verdant appearance characteristic of Kashmir valleys. The evergreens covered the mountain slopes most effectively in long unbroken striated sweeps, like those seen on a smaller scale in certain parts of the Black Forest and in the uplands of Norway. Beautiful as this valley view was, we could not escape a feeling of regret to have left behind the *Hochgebirg*, the vast, verdureless, rock-scarped, snow-crowned giants of Suru, Ladakh and Nubra, which present sublimities of size, outline and colour, that the green hills and vales

ON THE BHOT KOL GLACIER.

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of Kashmir proper can never approach; regret, that the excitement of treading unknown or little-travelled paths, of breathing the free air of the desert expanses of the higher mountain world, of communing with Nature in her noblest and most awe-inspiring moods undisturbed by the presence of human beings, were over, and we must now return to the uninspiring scenes of ordinary life, where one's freedom is abridged and one's life is too often made a burden by the accessories of environment of one's fellowmen.

The flora here took on a European character, but the tints were not so gorgeous as those of the Upper Suru region. We noted dandelions, buttercups, yellow and purple asters, bluebells, wild geranium, heliotrope, blue columbine, dark blue aconite, wild turnip, dock, rhubarb, strawberries, pink hollyhocks, sage, spirea, mullein with its characteristic furry stem and yellow head, and other familiar plants.

Passing down over Suknes to Inshin, where the typical Kashmiri again appeared with long repellent face, large features and expansive nose, over the Margan Pass, 11,600 feet, and through the Nowboog Valley, we reached Atchbal, where the camping grounds were fully occupied by *salon* mountaineers of the

milder sort, surrounded by all the paraphernalia of civilisation, whose steeds and dogs were picketed just outside their tents under the *chenars*, while they, in Norfolk jackets and white neckties, with their ladies, were to be seen engaged in the exciting sport of angling with infinitesimal hooks, in the diminutive artificial pools fed from subterranean sources in the *Maharaja's* garden.

During our visit to this garden they caught nothing, and nothing could be seen in the pools capable of nibbling a hook, but doubtless their zeal had its due reward. If it did not, they could console themselves with the reflection of the farmer's son, returning empty-handed from a fishing excursion, that he had anyhow escaped the necessity of dressing the fish.

This was our last opportunity to observe anything beyond the ordinary phenomena of Kashmir life, so we returned to Srinagar by the most direct route over Islamabad.

CHAPTER IV

The Shady Side of Himalayan Mountaineering—Procuring and Fitting-out of Sikkim Coolies—Up the Singalela Spur of Kinchinjanga—Coolie Demands and Shortcomings—Overtaken by Darkness in the Forest—Return to Darjeeling—Sikkim Scenery.

MOUNTAINEERING in the Himalayas has its dark as well as its bright side. Difficulties both natural and anthropological must everywhere be grappled with and conquered, before any measure of success can be attained. Those of the latter character differ in degree in different districts, but in our experience they reached their acme in Sikkim.

Sikkim is one of the most accessible of the fine regions of the Himalayas. The railway brings one in fifteen hours from Calcutta to Darjeeling, whence a few marches will place one well among the spurs of the remarkable mountain chain bordering on Nepal, the culminating point of which is Kinchinjanga.

The territory of Sikkim is not large, and, from its proximity to Darjeeling, it would

seem, that its mountains, if not ascended, ought, at least, to have been fairly well explored and described, instead of remaining, as they have, a terra incognita only to be gazed at from afar.

Several causes have contributed to discourage the investigation of these mountains.

(1) They are subject to strong monsoon influence, and, during the months of June, July, August, September and even October, the almost constant rains and snows would greatly interfere with mountaineering operations. By November, when there is usually a respite in the weather, the days are so short and the cold so great, that the climber would be greatly handicapped.

(2) The expense of the outfit of an expedition is so great, that few private individuals would care to incur it.

(3) The Government authorities are reputed to be disinclined to grant the necessary passes and assistance to persons, whose ambitions contemplate investigation of the heights bordering on the forbidden lands of Nepal and Tibet.

(4) There is, so far as we could learn, no Governmental regulation of coolie service, as in other Himalayan districts, to compel coolies to carry out their contracts, and the explorer,

after all the trouble and expense of preparation, is completely at the mercy of the particularly unreliable Sikkim coolies, who, in the absence of constraint, may with impunity and almost certainly will, wreck his expedition as soon as he leaves the beaten tracks of ordinary travel.

The influence of some of these causes may be seen in the following narration, in which the facts are related, without comment, as they occurred. They show some of the obstacles, which those having mountaineering aspirations in Sikkim may have to encounter.

We reached Darjeeling the middle of September 1898, with Swiss guide, Rudolf Taugwalder of Zermatt, tents and mountain outfit ordered in London expressly for this expedition, and provisions for two months carefully packed in convenient coolie loads. Our intention was to follow up the Singalela spur of Kinchinjanga to Chia Banjan and Jongri, over the Giucha La into the region behind Kinchin, climbing any peak that might be found accessible; thence across Sikkim to the mountains bordering Bhutan on the east.

Being informed, it was one of the duties of the Deputy-Commissioner to assist travellers in the matter of passes, securing of coolies for

transport and other necessary details, we stated our purpose to that official in writing, and, on our arrival called upon him. He acted promptly. Without detaining us by any unnecessary questions, within the space of five minutes, he summoned his subordinate, the Magistrate, and handed over our cause to him.

The Magistrate had had no experience in such matters, still, although his time was, evidently, all too fully occupied with the business of his department, he very courteously devoted considerable attention to inquiries on our behalf, and rendered us every assistance in his power. Among other things he ordered his *baboo* to call in for consultation two *sirdars*, who were loafing about the streets of Darjeeling. Their knowledge proved to be confined to the bungalow routes patronised by ordinary tourists.

They had never been within miles of the places we were inquiring about, and, when questioned respecting these, the principal *sirdar* would place one hand over his heart and raise the other aloft, turning up his eyes at the same time with a pathetic expression, which seemed to say, What you wish to do is beyond the range of human possibilty.

After several interviews, at which little

progress was made, it became evident, that these *sirdars* were not the kind we were in search of, that the civil authorities had no power to compel coolies to go with us, and that the latter, spoiled to the last degree by the unregulated state of affairs prevailing at Darjeeling, could only be depended upon to make the five marches to the last bungalow at Chia Banjan, at the exorbitant rates charged to visitors and travellers in and around Darjeeling.

Things looked black for our plans and we were discouraged, when the Political Officer of Sikkim, then staying at Darjeeling, hearing of the proposed tour, volunteered to take charge of the preparations, and supply coolies and transport. He said he himself had been over the Giucha La some years before, and would give us the *sirdar* who had accompained him, as he would know the way. The *sirdar* had recently been under a cloud, but would probably be all the more zealous in performing his duties on that account.

The Political Officer said a good deal about the difficulties of the route, of the density of the rhododendron forests beyond the Giucha La, of the obstruction caused by rivers, of steep and slippery paths, etc., which would make the proposed route almost impassable to a woman.

Having assured him we were accustomed to such difficulties as he mentioned and would take all risks, it was arranged, that the *sirdar* and forty-five coolies should be equipped at our expense, each with cap, jersey, woollen trousers, gloves, socks, *putties*, boots, thick woollen blanket and snow-glasses. They were to be provisioned for eight weeks with two pounds of rice per coolie per diem, besides tea, salt, *dall* or butter, *chillies* and rum in liberal quantities. They were also to have mutton, when the snows were reached, and four large tents to protect them from the weather. Fifteen more coolies were to be paid and provisioned to carry supplies for the forty-five.

Coolie demands are here rather magnificent in comparison with those in other Himalayan districts, where coolies usually feed and clothe themselves, or, at most, ask a very small advance on their daily wage for so doing, and are content with a daily ration of rice or meal, sleeping in gullies or under the shelter of rocks. The Sikkim coolie asks nearly or quite twice as much wages, and in our case, did less than half as much work as others.

The *sirdar*, a Sikkim Lepcha, was summoned and intrusted with the collection and management of the coolies. He and the coolies were to

meet us at Chia Banjan, fully equipped, and extra supplies were to be sent up to Be in the upper part of Sikkim to meet us, after we had passed the mountains.

The *munshi* of the Political Officer was commissioned to make the required purchases. It was immediately noised abroad in the *bazaar*, that a large expedition was on foot. Such a demand had seldom been made on the resources of that institution. Stories of fabulous wealth, of millionaires floated through its dusty mazes. Its merchants were excited to fever heat. An opportunity for such a harvest might not soon present itself again. The prices of the commodities in demand rose sharply. This mattered not to the *munshi*. He was commissioned to buy. He drained the market.

By 5th October all arrangements were completed. It only remained for us to procure camp servants and transport to Chia Banjan, the last bungalow on the Singalela Spur, as one ascends it towards Kinchinjanga. Recourse was again had to the Magistrate, who assisted us to secure the services at two rupees per day, of a native individual, who was to perform the duties of cook, but who never showed the least knowledge of the simplest elements of cookery. He never succeeded in boiling an egg properly, nor

in warming tinned meats so as to make them palatable. He was utterly incapable of handling prepared soups, and could never even start a fire with any certainty. Another native was engaged at the same price to play the part of *bearer* and interpreter, but he also failed to distinguish himself in either capacity.

The *sirdar*, who had so often gazed wistfully heavenward at the mention of places beyond his ken, engaged to transport our baggage and supplies the five marches to Chia Banjan, and the next day appeared with a mongrel and rather disreputable looking crowd of men, women and boys, who shouldered their packs and started. The coolies fulfilled their contract, but the *sirdar* instead of accompanying them as agreed, disappeared after the start, and was never seen again till after our return, when he presented himself to claim payment for services he had not rendered in person.

On arrival at Chia Banjan the Sikkim *sirdar* was awaiting us with sixty or more coolies, how many we never knew. We were never able to ascertain the exact number present on any given day, as some were always straggling behind, or were reported as having bolted. About one-third of them appeared and proved to be well-disposed. As to the rest, judging from their

BHUTIAN COOLIES AT CHIA BANJAN, FIVE OF THEM WOMEN.

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appearance, it would be difficult to match them in any jail in India.

A day was spent in dividing out rations and clothing. Nine sheep were purchased by the *sirdar* at double the ruling price, and, at daylight of the following morning, 11th October, we were up and ready for the start. The coolies were tardy however, and it was well after eight o'clock before the last of them were off.

We went on leisurely ahead till about eleven, when we stopped to wait for the coolies. At two P.M. none having appeared, we returned on our track, and at three met two of them, who said the rest were some distance behind. At last the *sirdar* came up with the main body, and stated that some had bolted at Chia Banjan. He said they could go no further that day, and we therefore encamped for the night in a thistle-covered field, five miles from Chia Banjan.

The greater part of the coolies had donned their thick clothing including woollen gloves, as if they wished to get the benefit of it as soon as possible, although the weather was so warm, that they would much better have marched in their customary half-nude condition. The boots and socks in particular, which were to furnish protection against snow and cold, were being worn out, where they were not in the least needed.

Towards evening the *sirdar* informed us through the interpreter, that the coolies would not go on, unless, in addition to their already varied diet, curry should be supplied them. How curry was to be obtained in this wilderness he did not explain. After a while he said, if they could have an ox at Jongri, they would go on.

Affairs looked suspicious. The first day, on an ordinary mountain-path, only five miles had been covered, instead of fifteen or twenty, which would easily have been made in Ladakh or Baltistan, and the coolies were complaining.

The order was given to march at six the next morning. At seven the coolies were leisurely cooking huge portions of rice and *chillis*, tea, etc. The *sirdar* was told to hurry them up, but he did nothing, remarking, they could not march until they had eaten, and that, when he had come over this route with the Political Officer, the latter had never started before eight o'clock.

During this day the coolies made only five to six miles, and, after waiting on a slanting arête, 13,100 feet high, from noon till half-past five for them to come up, we were obliged to encamp there for the night with scarcity of water, and no place for tents. With the help of one coolie we managed to build a platform

about two-thirds large enough for the lady's tent, while the guide and the *Sahib* enjoyed the shelter made by stretching a small tent over the ascending path.

The *sirdar* now said, the coolies, who had been gorging themselves on their other provisions, wanted to begin on the sheep, and, as an inducement to us to sanction this, he stated, that two of the sheep, having eaten aconite, which grew plentifully around, were ill and could not be driven. We answered, we had too much confidence in the instincts and good sense of mountain-sheep, which were bred among aconite, to believe they would commit the indiscretion mentioned; and that, until the coolies marched better than they were doing, they should not have a mouthful of mutton.

In this connection, added to their late morning starts, another reason appeared for the short marches made by these coolies, viz., that they, evidently bent on making the most of their opportunities in the line of food as well as of clothing, made long halts at mid-day, built fires and cooked elaborate compounds from their store of provisions, a thing we never met with elsewhere, during over eighteen hundred miles of Himalayan travel. They acted throughout as if they were on a junketing excursion.

The next day, 13th October, our valiant hirelings managed to cover another five or six miles, and having, as twilight was approaching, reached an altitude of 14,800 feet, dumped our baggage on the grass, wet from dense mist, and betook themselves to a shelter lower down, leaving us to pitch our tents and get water as best we might. We finally settled ourselves with the aid of the *sirdar* and one coolie, who remained by us.

The next morning we broke camp in two inches of snow and marched in a heavy snowstorm downward from the ridge, we had thus far been ascending, to a place, again about five miles distant, a thousand feet lower, where four shepherds' huts stood. We reached there about noon, wet to the skin, the snow for the last two hours having turned to rain.

Three of these huts, which were too leaky and filthy for use by civilised men, were taken possession of by the coolies, while the guide and servants occupied the fourth. The huts stood in a little hollow, the soil of which was reduced to a swamp by the drenching rain. Here on a sloping surface, soaked and oozing with water, we set up our tents in the rain and made ourselves as comfortable as circumstances would permit.

The coolies were active in bringing wood and water for themselves, but did nothing for us, and it was only towards evening, after several times admonishing the *sirdar*, that we got wood and water sufficient for our wants.

We had now in four days accomplished the remarkable distance of twenty, or at most, twenty-five miles. At this rate, three months would not suffice to accomplish what had been planned. It was plain that the *sirdar* either had no control over the coolies, or that he was in league with them or some one else to defeat our expedition. Certainly the coolies had done no proper marching, and he, although he always laid the blame on their shoulders, had not been known to urge them on nor had he shown any zeal in furthering our plans.

The storm continued two days. On the afternoon of the second day we had a long conference with him. He said four coolies had bolted on the last march, that there would be much snow higher up, that the coolies were not willing to go further, and that some had burned their clothes.

What a contrast did the conduct of these well-clothed, full-fed coolies in 1898 offer to that of those, who, in 1848, half-naked followed Sir Joseph Hooker, over snow and ice in his venturesome explorations. Why the difference?

We protested strongly, and told the *sirdar* his conduct and that of the coolies would be duly reported on our return to the Political Officer, which threat did not appear to ruffle him in the least or to change his attitude. Accordingly, as we were powerless against what appeared like systematic opposition, and had no one in authority with us to exercise further pressure, we started on the morning of 17th October to return to Darjeeling.

The coolies now marched with alacrity and ease twelve to fifteen miles a day, and we had no further arguments with the *sirdar*, who was dismissed the day before we reached Darjeeling.

One exception occurred on the second day of the return. It was proposed to reach the Chia Banjan bungalow that day, and the *sirdar* promised to be there by five o'clock in the afternoon, which, with proper marching, could easily have been done. At noon we made a long halt to wait for the coolies to come up. Towards three o'clock some of them appeared, and we then went ahead telling the *sirdar* to hurry on the rest.

We had waited so long for them, that we were overtaken by darkness in the forest about two miles from the bungalow. The path from here descended sharply along a narrow arête.

D 2, SINIOLCHUM, SIKKIM.

[*To face p.* 74.

It wound among projecting rocks, was crossed by gigantic tree roots, and was bordered on either side by precipices. Moreover the steady rain of the afternoon had converted its softer portions into slippery sloughs, so that it was dangerous to travel on even by day.

The moonless night fell cloudy and black. We could not see five feet ahead. A cold wind chilled us to the bone. Our lanterns, food and extra clothing were behind with the coolies. The guide volunteered to go ahead to try to find the bungalow and send us assistance. Our *tiffin* coolie now attempted to make a fire with some dead cane growth, the interior of which was dry, and, after a while succeeded. We seated ourselves on the ground near the fire to dry our drenched garments and await events.

After ten o'clock four of our coolies came up with one lantern, and, shortly afterwards, two others from the bungalow arrived with torches. They said the guide had fallen and cut his head. We now started for the bungalow, and, as we went on, stumbling over stones and roots, letting ourselves down over washed-out hollows by holding on to bushes and grass, we wondered, not that the guide had fallen, but that he had ever reached the bungalow alive, in the darkness.

We found he was not seriously injured. He had walked over the edge of a ledge and fallen about twenty feet, sustaining a slight scalp wound and a bruise of the shoulder. We sat the night out without food or bedding in the neglected bungalow, with its rough wet floors and doorless jambs. A few coolies arrived during the night, but the greater part of them put in an appearance after eight o'clock the next morning.

On our arrival at Darjeeling we called on the Political Officer to lay the case before him. He received us with an irritated manner, and the remark, "Well, I do not see what you are here for." When we proceeded to tell him why we were there, he appeared to take no interest in our recital, and asked no questions. He said he had had a long conference with the *sirdar* the previous day, and taken his testimony in writing, which he showed us. The *sirdar's* testimony contained statements mostly contrary to the facts, among which were the assertion that we had "ordered" him to return, and that the interpreter was at fault, having misrepresented what had been said.

We asked the Political Officer, if it seemed likely that mountaineers of some experience, after being at the expense of fitting out an

expedition on such a lavish scale, would turn on an ordinary mountain path, before any difficulties, other than those made by the men he had furnished, were encountered. To prove or disprove the assertion in regard to the interpreter, we requested him to officially confront the *sirdar* with the interpreter, and see how their statements compared. This he did not do. His only reply was, he had known the *sirdar* for eleven years and had always found him reliable, which did not tally with the admission made previously, that the *sirdar* had been under a cloud.

He did nothing further, except to render a bill for full wages of *sirdar* and coolies, leaving us to dispose of the outfit and provisions as best we might. Some credit was given a year and a half later for the coolie supplies which were forwarded to Be.[1]

The coolie clothing, most of which was ruined, and blankets, were, on our demand delivered up by the *sirdar*, except that, which had been destroyed, to replace which, the upright *sirdar* was seen the next day in the *bazaar*, bartering for worn-out boots, socks

[1] It seems proper to state, that the Acting Political Officer of Sikkim, to whom Mr Freshfield expresses himself so greatly indebted for courtesies and personal assistance, during his expedition in 1899, is not the person here referred to.

and trousers, which he brought in as part of the coolie outfit not previously delivered to him by the wearers.

After the return, Darjeeling gossip busied itself actively with the question, as to where the responsibility for the return belonged, and indulged in local personalities, in which we had neither interest nor concern.

One suggestion perhaps deserves mention. Granted the failure of the expedition, did not the position of the Political Officer as a Government official, and the prestige of the Government he represented with the unruly population of that district—leaving out of account the question of comity towards the parties chiefly concerned—demand, that he make an investigation of the facts, seek to place the blame where it belonged, and, if in his power, administer some punishment calculated to discourage a repetition of such conduct in the future?

The small territory of Sikkim possesses a greater variety of scenery and climate than can be found anywhere else in an equal area. In a space of seventy by forty-five miles, deep valleys alternate with high mountain ranges, rising in successive crests, one above the other, till they culminate in Kinchinjanga, the third highest peak in the world.

GAURISANKAR (MT. EVEREST), 29,002, FROM SIKKIM.

[*To face*, p 78.

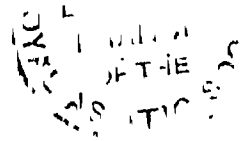
The luxuriant tropical vegetation of the valleys, the tree ferns, the great bamboo thickets, the palms, the trailing creepers, that hang in long festoons from the tall trees and darken the forest with their tangled masses, are succeeded higher by the rhododendrons, which at certain seasons clothe the hillsides with a many-coloured mantle; and these again by grasses and more modest forms of vegetable life, till a region of naked rock and eternal snow crowns the landscape.

Aside from beauty of form, the play of colour on the different features is bewildering and fascinating, particularly about sunrise and sunset, the tones varying according to the season and weather. Remarkable cloud effects are also seen.

Sikkim, as is well known, has the most rainy climate of any mountain region in India. Even after the middle of October, when the monsoon should have ceased, although the mornings were usually clear up to eight o'clock, clouds and fog then came up, which shut out all view, and the afternoons were often stormy.

On three of the mornings after leaving Chia Banjan, the views were something not to be forgotten. To the west, far within Nepal, Everest, with its giant sisters, rose straight and

creamy from a lapis lazuli plinth of hill and cloud. As the rising sun gilded the chain and its rays fell in a golden shower on the plinth, the towering white god of snow seemed to float upward from a billowy world of mauve vapour. To the north, over Sikkim, stood forth with chalky whiteness the wonderful ramps of Jannu, Kabru and Kinchinjanga, while to the east, the eye, sweeping over the border of Tibet, lighted upon the fair cone of sacred Tchumulari. Thus in a glance were included the three great peaks of Nepal, Sikkim and Tibet.



CHAPTER V

Greeted again by some old Friends in the Vale of Kashmir—Departure for Baltistan—Pleasures of Doonga Travel on the Jhelum—Kashmir Shawl, View from the Rajdiangan Pass—Over the Deosai Plains to Skardu.

RETURNING from a cycling tour in Java, we reached Srinagar on the 22nd of June 1899, and immediately went to work to complete our preparations for a two or three months' expedition to the northern regions of Baltistan.

Numerous relics of the idols of the previous marching season again greeted us with familiar and friendly countenance, weatherworn, browned and scarred from long exposure to the elements and from journeying on pony and coolie back. Among these figured our mildewed tents minus their pegs, the well worn but still hearty *yak-dans*, which, although they had not come off unscathed from the descent of several small precipices, over which the erratic movements of various ponies had cast them, professed themselves still fit and anxious for further

warfare with weather and unkind highland pony-flesh.

Next came much rubbed, dusky, Willesden canvas bags. Bereft of their locks and straps by the ready and receptive hand of the Kashmiri or Ladakhi coolie, shorn by frequent contact with mud, rocks and the *putto* covered backs of porters, of that vivid, budding green, that characterises this part of the kit of the tourist on his first visit to Kashmir, they were yet possessed of sufficient strength to serve as clothes carriers to the ice-fields of the Biafo. But these were only the survival of the fittest. The *partie majeure*, kettles, pans, water tins, *chilamchis*, the commonplace accessories, that make camp life endurable, where were they? Alas, either in the hands of departed faithful *khansamahs*, or, as in the case of chairs and tables, their mangled remains, like the skeletons on the Sasser route, were mouldering on some distant path, to which resting-place, fate, in the shape of the ever inconsiderate conscience of mountain ponies, had consigned them.

After marching over many Ladakh and Nubra passes, and seeing one's camp chattels, even to the last table leg, shattered by the sudden careerings of the tamest-looking animals,

one is led to reflect with respect upon the popular Buddhist doctrine of the Transmigration of Souls.

Sometimes the pony, having carried the wares of the Yarkandi merchant or the table of the *Sahib*, succumbing to fatigue and rarefied air lays down its life. Again the table, after long endurance of hardships, succumbs to the antics of the pony and lays down its life. If that table have a soul, and who in these days of hair-splitting religious philosophies shall affirm it has not, may not that soul, having endured the trials incident to the career of a table, enter on a higher stage of development by passing into the body of a pony?

This supposition, perhaps, most readily accounts for the otherwise inexplicable actions of some most emaciated, sad-eyed ponies, and one can fancy the satisfaction with which the soul of a table, off which one has often feasted, having entered on this broader and more turbulent stage of evolution, avenges on the next convenient table the indignities, to which it itself in its previous form had been subjected. But a mountaineering book is not the place for the discussion of such problems.

The season was advancing and time was of importance. Our utmost endeavours were re-

quired to replace the missing articles and to select and box the provisions. Ten days after our arrival at Srinagar our modest outfit was completed. Some one may say. You might have spared yourselves those ten days of toil. Srinagar is a civilised place, and the traveller has only to write some days before arrival to one of the agencies, and all necessary impedimenta, including servants, will be procured, ready for him, and he will only have to step from the *tonga* to his house-boat, or tent. This all sounds well, but, let the mountaineer try it and he will find much to be desired.

Srinagar is advanced in a way, and, after another two or three years, will not only be more advanced, but in the opinion of some, quite Europeanised and spoiled with its hotel and railway. That the agencies provide fairly well equipped house-boats at short notice may be true, also tent equipment for bath tub laden Lidarites; but that they or Silver of London can, on command, without the presence of the person interested, get up a suitable and adequate mountaineering camp kit must be doubted. The mountaineer himself does not know just what he needs, until a season's rough experience has taught him, and he is likely, in the light of experience, to discard

a considerable part of what he has brought out with him.

Several weeks before arrival, we engaged a cook and tent servant, who had been recommended as capable and conversant with the region, to which we were going. Alas for the value of recommendations, they both proved unsatisfactory, appropriated our and the coolies' food to their own use, fomented discontent among the coolies, and, on one occasion, nearly caused the loss of a mountain ascent.

Our old *khansamah* of the previous year, who had not shown himself so valuable as to make us anxious to re-engage him, like the old tents and bags, put in an appearance and desired to accompany us. He had some redeeming qualities, such as being willing to make stiff marches—we say willing, because a Kashmiri is always able, but not always willing—and competent to get up a meal quickly at 16,000 feet from sparse material. So it was decided to add him to the caravan as *bearer* and reserve cook, should the other in any way become incapacitated.

A pass was required for the Deosai route to Skardu, which we proposed to take, and this on the present, as on two other occasions, was courteously and promptly provided

by the Government authorities, as well as pony transport from Bandipura to Skardu.

Our party consisted of the writers, the guide Mattia Zurbriggen of Macugnaga, and four camp servants.

Of the two routes from Srinagar to Skardu, the shortest and most convenient is that over the Deosai Plains, which, on account of its elevation, can only be used during the warmer months. We were told in Srinagar that one to two feet of snow would probably be lying on the plains, and that the route could not be considered open until the middle of July. The authorities at Bandipura said, parties of natives had already come over, but had made no report of the condition of the road. They also thought eighteen inches of snow might still be found. As the snow question was evidently a matter of conjecture, and as we had often successfully faced reputed obstacles before, we decided to go by the Deosai route, and, it may be added, encountered no snow.

On 1st July we bade farewell to the kind friends, with whom we had been staying, who had done much to assist us in the labours of preparation, and stepped aboard the *doongas* for Bandipura.

Toward whichever great mountain region

AT ASKOLE.

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one is headed, the first two or three marches out of Srinagar can generally be covered by boat. The choice is between two evils, the discomfort of thirty-six or more hours on a *doonga*, or of several hot and dusty marches in the "Happy Valley" to the foot hills. We have tried both methods, and find marching, tiresome as it is on the level, on the whole preferable, for one can retreat from pony and dust into a tent at night, while from the *doonga* there is no retreat until the journey's end. The *doonga*, like Switzerland, is not so bad in itself, but its population render it unendurable.

The *hangi* or boatman agrees to take the traveller to a given place in a given time, unless prevented by a "great storm." It matters not what the season or what the direction, the great storm is ever the snag ahead. He promises to row at night, to do no cooking, and have no children on the *Sahib's* boat, with which understanding one engages a first-class *doonga* for one's self and a second-class one for the servants and luggage.

The *doonga* is fairly commodious. One can at least stand erect in it, which is more than can be said of the *sampan* of Indo-China and Siam. It would be possible to exist quite comfortably in it for a day or two, did the

hangi adhere to his agreement, which, once made, he disregards with the utmost nonchalance.

When the *doonga* is well under way he tells the traveller, that to perform the journey in the stated time, several extra hands must be provided at the latter's expense. After considerable parley, as matters have gone so far and time is of value, the boatman is told to procure the extra men. With this two hours or more are wasted.

The boat starts again. About noon it becomes filled with a suffocating smoke. Raising the reed curtain at the rear, which separates the main part of the *doonga* from the rowers, one sees the *hangi* and his entire family of women, children, and infants seated around a smoking earthen stove, on which dinner is being cooked. Vigorous remonstrance shortens the cooking process, and the afternoon drags slowly on, during which one is annoyed by the noise of the children and the crying of the infants.

On the approach of darkness the boat suddenly stops at the river bank, and the *hangi* communicates his intention of tying up for the night. Threats of castigation, the only thing besides a bribe, that will influence a Kashmiri, avail nothing. The boatmen retreat

in the darkness beyond the reach of whip or stick, and nothing remains except to make the best of the situation. To fill the measure of one's discomfort, the fire is kindled again in the stove at the stern. Thoroughly worn out and provoked, the traveller, determines, that, if the night must be spent thus, he will at least have undisturbed possession of the *doonga* and a quiet rest. He accordingly proceeds to drive the women and children ashore, who take their departure with loud lamentations, and to deluge the stove with water. He also sees to it that the whole party retreat far enough away to free him from the cackling voices of the old women and the jangling of the men.

Our experience on this occasion was not quite so disagreeable as that drawn, which is, however, a true picture, and, on the following morning we were duly landed at Bandipura.

After breakfasting with, and a hearty "God speed" from the genial Captain, Asst. Commissary-General of the Commissariat Transport Department at Bandipura, we rode up to Tragbal, the halting point before the Rajdiangan Pass. How often have the cheery words at parting of both civil and military officials in India, lingered in the air like blessings on our onward, often isolated, path afoot and awheel!

And so later, beyond the farthest village, among the distant valleys and mountains of the snow world, in the wailing of the storm, the last words of the good Briton echoed to our souls: "If there is anything I can do for you up there, just let me know." Had there been the dire need, that may at any moment come to mountaineers, we could not have informed him, nor could he have aided us in time, but the after flavour of such words lingers long in memory's reminiscent halls, when one's companionship for days is that of peaks and glaciers.

We pitched our first camp at Tragbal, on a knoll overhanging the silver sheet of Woolar Lake and the pastoral groves of Bandipura by 4,000 feet. Early the next day we crossed the Rajdiangan. The view from the Rajdiangan enjoys a reputation in Asia similar to that from the Rigi, or from the Schafsberg in the Salzkammergut, in Europe. It has its beauties, but they are overrated. Besides Nanga Parbat, what chiefly attracts attention is the odd Kashmir-shawl appearance of the valley below. We mean the rare old pattern of the shawls possessed by our grandmothers, which, like the antique vase of Japan and embroidery of India, has vanished, except in collections like those that drape the

walls of *Raja* Sir Amar Singh's reception room, or lie stored in the iron boxes of the Treasury at Srinagar.

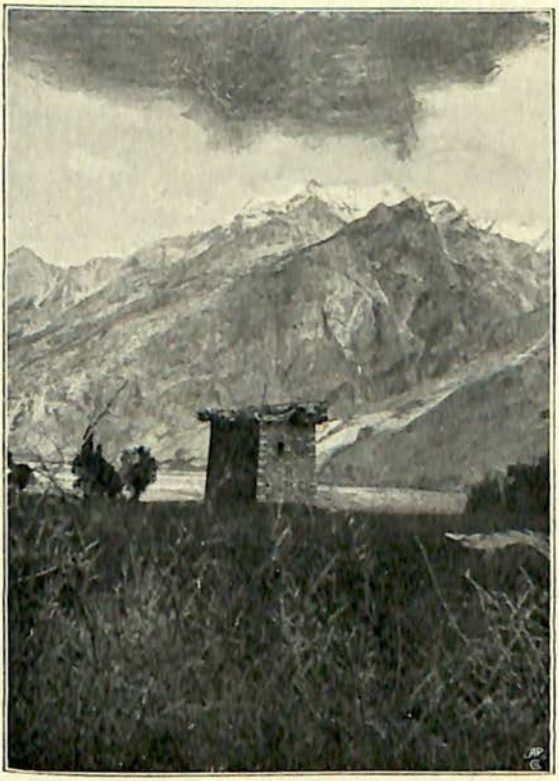
Nature in a mood of fantasy has preserved in the much praised "Vale of Kashmir," this souvenir of the palmy days of Shah Jehan, more unique than the famed gardens of that Emperor, and nearly as valuable to the antiquarian as the beautiful temples of Martand and Payech. One has only to ascend a few thousand feet as to the Rajdiangan or the summit of Mahadeo, to see the bed of the valley transformed into a sheeny silken shawl of line upon line of green rice fields, and miles of sinuous waters ending in lotus-covered lakelets, or circling about brown sands bare of vegetation.

One should not view it with the eye of the modern artist, but rather with the Oriental imagination of the aforetime Kashmiri designer, when it will show forth the ancient model ever renewed by nature at the melting of each winter's snow. The more one studies India, the more one sees, that its people copied nature in modelling their own handiwork; and this is as clearly the case with the temple builders as with the designers of the Kashmir shawl.

From the Rajdiangan three days brought us to the Deosai. Before emerging upon the plains two passes were crossed, the Stakpi La, 12,900 feet, and the Sari Sangar, 14,200 feet. They are near together. The first is a narrow defile ascending between sharp peaks to a high valley, which soon leads to the second pass. Near the summit of this is a lake about a mile long, banked in by old moraine. The path winds among moraine heaps and rocks, through a region desert and lifeless without being grand; about one hundred feet lower is a second similarly set lake.

Thence, onward for twenty-five to thirty miles, stretch the desolate, rolling, alluvial plains of the Deosai, which cover about that distance in all diameters, and are enclosed by a circle of serrated peaks from 16,000 to 17,000 feet high. The surface in early summer, while generally dry and stony, has many boggy places and is watered by frequent streams. Every few miles there are grassy spots, which furnish grazing for ponies, but no wood, except low bushes, is to be found. The only inhabitants are mosquitoes and marmots.

The mosquito, realising the important rôle he plays in this domain, is an insect of noble proportions and gigantic voice. He attacks



REMNANT OF OLD FORT AT ASKOLE.

[*To face p.* 92.

interlopers of the human species with persistent virulence between the hours of sunrise and sunset. Unlike his *confrère* of the Tropics, who usually reserves his attacks for the dark hours, this valiant denizen of the Deosai, satisfied with daylight marauding, leaves his victim to rest at night. Whether the Indian mosquito requires less oxygen than the European, perhaps malarial experts can tell us, but he certainly includes higher altitudes in his itinerary, than does the European insect, and is evidently in full possession of both breathing and buzzing apparatus on this elevated plateau at 13,000 to 14,000 feet.

The *raja* of the Deosai is the marmot. This animal is about two and a half feet long and of a lively brown colour fading to fawn over throat and chest. He is quick in movement, inquisitive and fond of sentinelling the line of march of the intruder, yet shy withal. As the caravan moves over the monotonous route, these restless, bead-eyed creatures appear, sitting erect on successive hummocks, with uplifted paws and nose, filling the air with shrill shrieks. They watch the *avant-garde* of the caravan narrowly, and, just as there is hope of laying them low with gun or camera, they scuttle down, one after the other, into the bowels of

their earth mounds. Altogether the marmot is unsatisfactory, and it is as difficult to gain a nearer knowledge of him as of the Indian.

Two marches brought us to the Burji La at 15,900 feet, a depression in the boundary range to the north, from which the abrupt descent to Skardu is made. The last hour before the pass, the dusty path zigzags up a steep hill. Up to this point no snow had been encountered, but quite a respectable snow-field extended down from the top for some distance on the north side.

The view from the pass is good but limited, embracing a part of the Mustagh Range overhanging the lower belt, that bounds the Skardu Valley. The downward vista is also impressive, a bit of valley glimmering green 8,000 feet below, a miniature oasis beyond seemingly endless rock gorges. The Baltistan capital with its mud and stone huts and *Raja's* palace is hidden from sight by a projecting spur.

On the descent, it took the ponies half-an-hour to pass the snow, over which we had a good *glissade*. Then followed some seven miles of foot racking, sharply descending gorges, which ended in a level stretch of three miles through the willow and apricot-sprinkled valley to Skardu.

CHAPTER VI

Skardu to Shigar—Visit from the Raja of Shigar—Over the Skoro La—A Greeting from Zermatt—Across the Rope Bridge to the World's End—People of Askole.

WE were now in Baltistan. The lean but fairly staunch ponies supplied by our good friend of the Gilgit Commissariat had finished their work with no damage, save taking off the garishness of the lately added camp chattels. Henceforth we were to be dependent for transport on *naib tehsildars*, *zemindars* and *lambardars*.

Skardu, while not so weird and *Doré*-like in its picturesqueness as Leh, is a not unhappy dot of barbarian civilization nestling at the foot of a grand *entourage* of bold soaring peaks. Its only endurable encamping ground adjoining a *serai* was occupied, so the choice for us fell between a ploughed field partially shaded by a trio of sickly apricots, and a small treeless grass plot, where even a double fly-tent was quite powerless against the blaze of the July sun.

After a short march we reached pastoral

straggling Shigar, watered by mountain rivulets, famous for apricots, cherries and greengages, and the proud possessor of a well-kept polo ground, which travellers are permitted to use for encamping purposes. After we had pitched our humble tents on this broad field, a message was brought, that the *Raja* would favour us with a visit after dinner. He came, a gentle, refined individual, with gestures so graceful, no cold pen could paint them. With a courtesy perfectly in harmony with the standard of native opinion, as regards the position of women in India, he handed the *Sahib* a sweet-scented nosegay of welcome, favouring the *Memsahib* with a dignified bow of recognition.

After an exchange of greetings, His Highness was offered one of the two chairs of our *camp de montagne*, the *Memsahib* occupied the other, while the *Sahib* contented himself with the end of a camp bed. The brother of the *Raja*, and a dozen of his court nobles or retainers, whose rank could not be distinguished from that of the ordinary village coolie by their clothing or appearance, seated themselves in a semicircle on the grass before the tent.

Our repertoire of camp luxuries being small, we offered Vafiadis cigarettes, which the *Raja* appeared to like well, puffing delicately at

several until two-thirds used, when he handed them to his brother, who inhaled three or four puffs with great satisfaction and passed them on to his companions. Before leaving, with a charm of manner and softness of voice, that made our English speech seem positively ill-bred and brutal, he offered to get up a polo gymkhana for us on the morrow.

But the hills were "a-callin'" us, and the next day we turned our backs upon the flesh-pots of Shigar and started for Askole. From Askor Nullah, five miles beyond Shigar, two routes lead to Askole, the lower through the valley of the Braldu, the upper which is shorter, really easier and far more interesting, up the Askor Nullah and over the Skoro La. In sheltered Shigar we were told the customary story, that the upper route was impassable and no one had come over it this season.

At Askor Nullah Village, the Shigar coolies were exchanged for a motley flock of loud mouthed Baltis, who were to take our kit over the pass. The ascent through the Askor Nullah to the foot of the pass is a rough eight hours' scramble through the wildest of gorges, whose bed for two to three miles is only wide enough for the passage of the rushing torrent, which must be forded some twelve times.

If the start be made from Askor Nullah Village, it is advisable to leave early, as, by noon, the river becomes unfordable. We were detained at the village until nine o'clock, and were obliged to encamp three hours up the *nullah*. Starting at four o'clock the following morning, we reached the foot of the pass, 12,500 feet at half-past ten. Here, on a small plateau, we met with the ubiquitous English *shikar Sahib*, enjoying an off day. Our coolies begged to remain, but we refused, insisting on at least a high bivouac for that night. After a hospitable cup of tea, we continued on, accompanied for a thousand feet by the *Sahib*, who hoped he might espy an ibex on the flank of the mountain.

At a height of 15,000 feet several coolies broke down with mountain sickness and rent the air with wailings. In spite of admonition, their progress became so slow, that we were obliged to bivouac, at 15,800 feet, on a narrow wind-swept ledge of the arête leading to the col. It was a gruesome camp with room for only one small tent. The arête rose between two deep *nullahs* with abrupt walls, down which rock avalanches were thundering at all hours of the night, and, to this mountain music, were added ever and anon the groans of the air-sick coolies.

Here and above to somewhat over 16,000 feet,

where there were any patches of soil, diminutive edelweiss, of the size of that found on the Kardong, with buff-coloured petals and black-tipped stamens grew plentifully, in great contrast to the huge variety of the Upper Wardwan eighteen to twenty-four inches high with flowers two inches or more in diameter.

At 4.30 A.M. with the mercury at 32° Fahr. we broke camp. The ascent to the top was sharp, over ledges and shale without a semblance of a path, and there was danger from falling stones detached by those in advance. As we neared the top, a mighty snow peak rose proudly and alone above a group of lesser hills and leaned like a Titan against the curtain of blue in the direction of Gilgit. It was no other than the peerless Nanga Parbat.

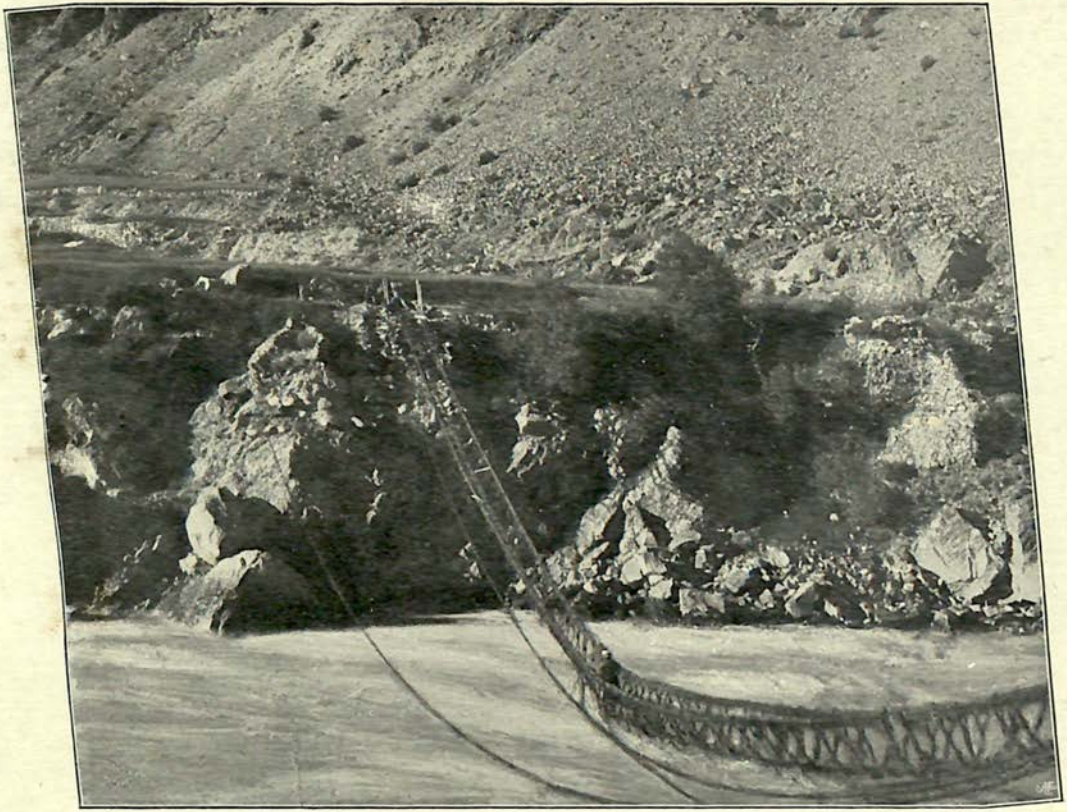
At the top of the pass our Watkin indicated 16,800 feet, Zurbriggen's Cary 17,000. The Skoro La differs from any of the eighteen passes between 14,000 and 18,000 feet, which we have crossed the last two summers. Its south face, above the arête leading to it, consists of a steep rock wall, which terminates in a knife-like ridge. On the north side, a vast snow-field, in places crevassed, falls away for a thousand feet and terminates in a long glacier.

From the top, the Askole mountains and

the more distant spires of the Biafo, which were later to be our daily companions, meet the eye. Otherwise the view is not extended, being cut off by the chain of summits, in the angle between which the Skoro La lies. But, as we descended, a glittering white chaplet of peaks was unfolded, resembling, but on a more gigantic scale, the celebrated favourites of Zermatt as seen from the Gorner Grat. The Breithorn, Castor and Pollux, Lyskamm and Monte Rosa, and, on another side, the Weisshorn rose to greet us, not in spirit, but in grandest form, here under Asia's sun in this far distant Himalayan world. They were all so noble, so godlike, that we felt like adding to Brunnhilda's poetic greeting, "Heil dir Sonne, Heil dir Licht," *Heil euch ewigen Höhen!*

The coolies, after making night hideous with their lamentations, now, elated with the prospect of 8,000 feet of descent, forgot their mountain sickness and glissaded with tents, bags and *yakdans* down the long snow-fields in the most hilarious manner.

The descent to Askole is long and tiresome, like that from most of the high Asiatic passes, but the views of the mountains at the foot of the Biafo and Baltoro glaciers, as the valley is



THE ROPE BRIDGE OVER THE BRALDU RIVER NEAR ASKOLE, 270 FEET LONG.

approached, compensate for a lot of wear and tear. After eleven hours of hard marching, we reached, at sunset, the rope-bridge, which spans the two hundred and seventy foot wide Braldu river before Askole.

We regarded it with some trepidation, as it hung in a long catenary, high over the water, with its three ropes made of twisted twigs placed in the form of an isosceles triangle, the lowest rope for the feet and the upper ones to be grasped by the hands and arms; but with camp to be pitched and darkness approaching, we did not stop to consider our nerves, which is perhaps the best way to act, when obliged to cross such aërial bridges. It is not a pleasant sensation, particularly about midway, to find one's self swaying on these slender structures over such turbulent, swiftly flowing currents, as the Himalayan snows produce, and, aside from the danger of falling through the bridge, one cannot escape the thought, what if one or all of these ropes should part, as has been known to happen.

Askole has been called, not inaptly, "the world's end." The name is given to seven villages scattered about this remote valley, each with its separate *lambardar*. The last and principal village, connected with the outer

world only by the swaying rope-bridge and the pathless glaciers towards Hunza and Turkestan, is indeed a last *gîte* for human beings, the final patch of green on the ragged edge of a world of ice. As if to accentuate the stern environment, Nature inflicts upon this mountain-hemmed town an eight months' winter, during which time of cold and silence, communication even with Shigar, the next large town towards civilisation is either cut off or rendered hazardous; for the lower route to Shigar is so rough and cut up by rivers, gullies and precipitous ridges, that, even in summer, it is often more difficult and dangerous than the higher one we crossed.

In Shigar the Askole people are spoken of as Braldu men, not Baltis. The Askole Valley is in the Province of Braldu, but the inhabitants of Braldu are practically identical with the Baltis, dress like them, and speak, so far as we could learn, the same language. Like the Ladakhis, they are of Tibetan origin, although Mohammedan in religion. Physically they resemble the Nubrans rather than the Ladakhis, but the nose is not flattened and they are taller. They do not carry such loads as the Ladakhi coolies but are better climbers.

Being accustomed to contend with the

roughest of paths in taking their cattle to high pastures, which is done in summer in Baltistan as elsewhere, they are good mountaineers and we found them capable of going loaded wherever it was necessary for them to go. The will and courage only are wanting. They are great cowards and have an aversion to ice. With us they would prefer a difficult tiresome route over moraine to a more direct and easy one over ice. Their clothing is of similar materials to that worn in Ladakh, but of different pattern. The jacket is shorter and they wear short wool *pyjamas* and carry extra pieces of cloth to wrap about their waists and heads. Instead of the queue, they shave the top of the head, leaving the hair over the temples to fall in long curls or braids, according to individual taste. In this respect they resemble the Polish Jew.

They wear a small round cap on the crown of the head, which the *lambardars* supplement with a *pugaree*. On the glaciers they use skin boots with the hair on the inside. They carry staves with cross pieces of ibex horn or wood at the upper end, which in a primitive way take the place of the ice axe. They are polygamists, having abandoned polyandry, most probably on becoming Mohammedans.

CHAPTER VII

Off for the Biafo—Lambardar Kinchin—Among the Séracs—Zurbriggen rescues a Sheep—A Halt at Boggy Camp—Sublimities of the Biafo.

THE Biafo and the Baltoro glaciers, for exploring which Askole is the starting point, are said to be the two largest glaciers outside the Arctic regions. Our plan was to follow up the former some thirty-five or more miles to its origin at the Hispar Pass, and return to Askole. The only Europeans, who had previously visited or crossed the Hispar Pass, so far as known, were Sir W. Martin Conway and his party, who went over it from the north in 1892, and descended the Biafo glacier.

The *lambardars* of the seven Askole villages took three days to collect and equip coolies, and supply them with provisions for the expedition. This accomplished, we started on 16th July, with fifty-five coolies in charge of *Lambardar* Kinchin. Of these, five were to be employed exclusively as *dâk* runners between

LAMBARDAR KINCHIN AND ASKOLE COOLIES
ON THE BIAFO.

CONFLUENCE OF STREAMS FROM BIAFO AND BALTORO
GLACIERS FORMING BRALDU RIVER NEAR ASKOLE.

[*To face p.* 105.

our camps and Askole, to bring mails and supplies.

We were obliged to take five for this purpose, because no coolie in this region will go alone over the glaciers or among the mountains beyond the travelled paths, and, as two messengers were kept always on the move, four were required to do the work of two. The fifth was held in reserve to relieve the others as might be desired. We did not learn, whether their unwillingness to travel alone was due to the fear of evil spirits, or of the natural dangers of the way, but certainly the latter were such as to warrant the precaution of taking a companion.

Being the only one who spoke Hindustani, Kinchin played the double rôle of leader and interpreter. In the former rôle he was worthless. He was a shivering, cringing fellow, not possessed of the pluck and persistence necessary to lead his compatriots on the ice.

Of the fifty-five coolies under his orders, he said he could only control the actions of seven, who came from his own village, and that the rest were independent of him. Whether this statement was true or not, we soon ceased to expect any exercise of authority from him, and regarded him only as a figure-head, through whom to give our orders. In most cases we

had to see ourselves that they were carried out. His appearance was almost as picturesque as that of our former Madrassi butler, Mr Paul. Although going to a region, where, he knew he would not, in days, see a blade of grass, he clothed himself in the cast-off linen coat of an English *Sahib*, and, instead of a staff, carried a cotton umbrella, the latter perhaps as a symbol of authority.

That both coat and umbrella proved ineffectual against the fluctuating temperature and storms we experienced, may be imagined. At our early starts he was usually seen, not ordering and assisting his men to load and get off, but crouched and chattering with the cold, the umbrella tucked dejectedly under one arm. He had good manners, was seldom importunate and never eloquent, except when begging to return to Askole.

He clung to us, however, like a brother, for more than a month, and filled his position with a certain dignity, if not with efficiency. His *chit* of recommendation, bearing Sir W. Martin Conway's signature, but not the name of Kinchin, like the umbrella, had doubtless changed hands more than once. Zurbriggen is certain that he was not with the Conway party, and it is doubtful, whether he soon again

BIAFO GLACIER AND PEAK OPPOSITE ITS LOWER END.

[*To face p.* 106

will venture to tread the icy tract of the Upper Biafo.

From Askole a two hours' march brings one to the confines of the glacier, where all paths cease, and the tedious moraine work, common to most great glaciers, begins. On the present occasion, this last was only a matter of half or three-quarters of an hour. We ascended the right lateral moraine at a point perhaps a mile and a half from the end of the glacier, and obtained an immediate foothold on the ice.

For the first six or eight hours' march the surface of the glacier was much broken, consisting of immense truncated *séracs* separated from one another by deep hollows. The ice was mostly concealed from view by a thick covering of detritus, which varied in character from mud and sand to blocks of rock the size of a small house. Boulders of granite, white quartz, and quartzite, sandstone, conglomerate and shale, lay everywhere about, and bridged the crevasses between the *séracs*. Over this part fairly good progress could be made, and towards evening we left the glacier and climbed to an alluvial terrace at the base of a high cliff, where we encamped at an altitude of 11,775 feet. We named this Ledge Camp.

For some miles above this place the *séracs*

became larger, higher, and more pointed. The crevasses were longer, wider, and extended, with few bridges, from bank to bank. Our second day might be called a day lost in the *séracs*. We sought a passage on the side towards our camp, but found none. The crevasses were too wide. We then crossed over to the centre and attacked a reach of huge *séracs*, which projected like a gigantic white tongue between the dark coloured ones, that formed the sides. Here hours were spent in cutting steps up and down and around the great honeycombed pinnacles, which projected fifty to sixty feet above our trail, to say nothing of the depths to which they descended below it.

Zurbriggen, who was with the Conway expedition in 1892, said the changes in the glacier at this part were such, as one would not believe could take place in seven years. It had receded greatly and become much more crevassed and broken, and passage was now barred, where it had then been easy. A recession of the snout or end of the glacier has also taken place in recent years. Colonel Godwin Austen says, that, in 1861, the end abutted against the cliffs of the opposite or south side of the Askole Valley. Now it scarcely reaches the line of the north side.

THE WALHALLA OF THE BIAFO, OPPOSITE MT. MERU.

"Walls like the glittering domes on high
Reared for the dwellers of the sky
By heavenly architect."

[*To face p.* 108.

With much loss of time we succeeded in getting the coolies through the *séracs*, until we came to two tall ones separated by a deep crevasse, between which, on the side of one of them Zurbriggen had to cut a gallery some thirty feet long. It took him more than half-an-hour to complete this, during which time we sat cooling off on a beautiful blue *sérac*. It was a half-clear, half-cloudy wintry morning, quite suitable for a brisk walk, but not for reclining among crevasses, with only a mackintosh to soften the icy back of one's Arctic chair.

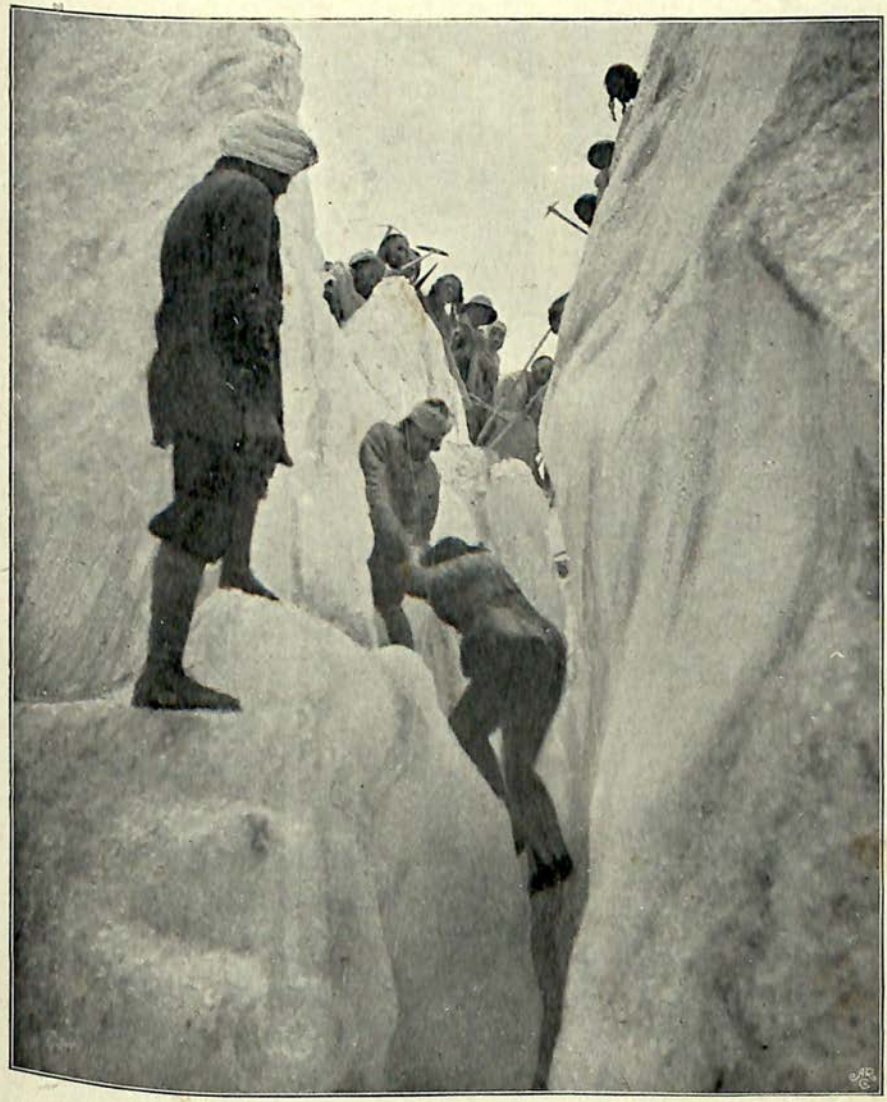
Some of the older coolies, who were destined to become irritating spokesmen for all during the journey, began to remonstrate and babble about returning. Their complaints were answered with considerable asperity by us and by Zurbriggen, who was doing all the work, while they were only playing the part of idle spectators. The gallery completed, we passed through and settled ourselves comfortably on another ice perch for another hour's wait.

Owing to the projection of the ice walls, the coolies could not easily follow while loaded, so that it was necessary to bring their loads through the passage first. To do this Kinchin and our *bearer* stationed themselves in the

gallery, and handed the different packs, some of which weighed over sixty pounds, to Zurbriggen, who stood at the most dangerous point, with one leg often astride the crevasse and the foot braced against the opposite *sérac*, and passed them on to two camp servants, who were stationed on a shelf below to receive them.

Finally, the two sheep came, which were being taken along to serve later as food. One was safely landed on the further side; the other, owing to some inadvertence, fell into the crevasse and disappeared from sight. Fortunately, it lodged unhurt on a projecting shelf, which narrowed the crevasse. The *bearer* and Kinchin lowered Zurbriggen with a rope to its rescue, and it was drawn up in safety to rejoin its companion. All these proceedings were watched with great interest by the coolies from the *sérac* above.

After this a couloir was reached, where a short period of activity was possible. All too soon, however, we came to a flat ice surface, where, to our dismay, crevasses that could not be jumped and had no discoverable bridges, confronted us. After considerable vain search for an available outlet, as the weather was becoming thick and the day was on the wane,



ICE GALLERY ON BIAFO GLACIER.

Lambardar Kinchin drawing Zurbriggen out of Crevasse after Rescue of Sheep.

[*To face p.* 110.

it was decided to return to Ledge Camp for the night. It was amusing to see with what ease and agility the coolies returned unaided, in two hours, over a track it had taken seven hours to cut through in coming out. With our Baltis it was always noticeable that, while they were infants in overcoming mountaineering difficulties on forward marches, when headed towards a return camp they showed themselves experts of no mean order.

The next day, 18th July, we remained in camp, while Zurbriggen made a reconnaissance. He went over to the east side of the glacier, but that proved to be as impossible as the one we were on. The only practicable passage, he found to be from the point we had left, where, after further search, he discovered a bridge.

On the morning of 19th July, we started again, passed successfully through the *sérac* belt by noon, and then reached a smooth surface along the middle of the glacier. From here two high longitudinal ridges, one toward the east and one near the west side, heavily loaded with moraine detritus, run up the glacier for several miles. After leaving the *séracs*, we kept to the smooth part in the middle, but the coolies, in their dislike of ice, followed up the westerly ridge, which, at about two o'clock,

brought them into a labyrinth of *séracs*, from which they were unable to extricate themselves. We were obliged to cross over to them to bring them out again. We tried, on the afternoon of this day, to find an encamping place on the right bank, but the *séracs* and crevasses were so large we could not get off the ice. We therefore crossed over to the left bank, and after a two hours' struggle among the border *séracs*, reached a level, dry, stony plateau with plenty of wood and water at 12,900 feet.

The following day, 20th July, we reached Boggy Camp,[1] 13,650 feet, situated on the west or right bank of the glacier. This lies in a sloping, sandy hollow at the entrance of a side valley leading up to a cluster of splendid snowy peaks. The glacier bounds it in front; it is backed behind on the west side by a mountain wall, and on the south by a high moraine. Here we remained four days, as the weather was unsettled. As this was the last place where wood could be found, we employed

[1] The situation of our Boggy Camp differs slightly from that of Sir Martin Conway's Boggy Camp. The former is on the northern edge of the junction of a side glacier with the Biafo, while the latter is on the southern edge of the same junction, at a somewhat lower level. They are the width of the side glacier apart. Sir Martin Conway's name applies so well to the nature of the *terrain* in both cases, that we have retained it. The two might be called Upper and Lower Boggy Camp.

COOLIES; ON AN ICE-HILL OF THE BIAFO.

[*To face p.* 112.

BOULDERS AND ICE-RIDGES ON THE BIAFO.

[*To face p.* 112.

the time in sending wood to Ogre Camp and beyond for future use, and Zurbriggen made an excursion up the glacier to see what its condition in the upper part was.

We were here greatly troubled by flies, some of them small, and some larger than horse flies, which, entirely reckless of danger devoted their attention to us with a persistency, that indicated, they desired to make the most of this one opportunity of their lives to form the acquaintance of humanity. Their well-meant attentions met with rather an inhuman reception and the list of the slain was large. No prisoners were taken.

The silence was frequently broken by the roar of stone avalanches and loud, sharp explosions, caused by the cracking of the ice, the salutes of the glacier to the hills above. Now and again a boulder or ice remnant fell booming into the turbid depths of a tiny glacial lake near the bank, and then the tension of stillness in the ice world was resumed.

All the encamping places on the Biafo, as far as Ogre Camp, the next above Boggy Camp, are good, and, although rather difficult of access from the glacier, as regards scenery leave nothing to be desired. The situation of each is grander and more beautiful, if possible,

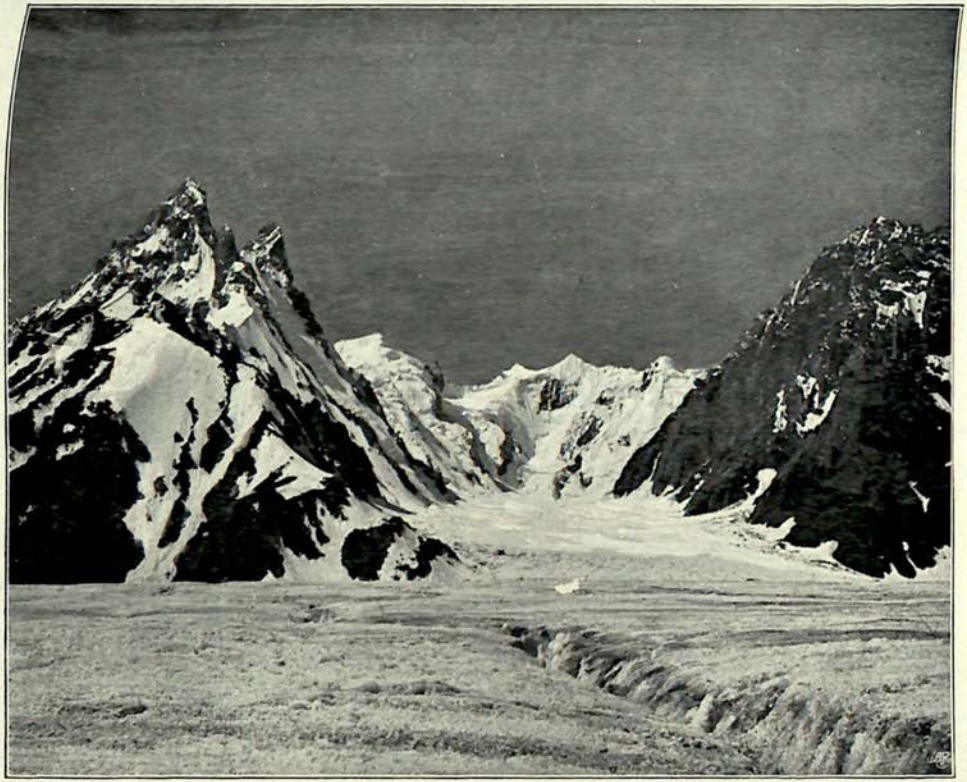
than that of the last. Every march up the glacier carries one to different scenes of varied and ever increasing grandeur, until it becomes quite impossible to look, in any direction upon a commonplace outline or into a vista of monotonous or banal contour.

Most valleys, most glaciers, like most persons, have their prosaic points, and by no means always reach an interesting climax. Not so with this proud Arctic flow. Its crevassed windings trend ever onward toward a greater environing beauty, till they merge into the vast white pall of Snow Lake, where the bordering heights spread out and join hands in a peerless *cirque* of weird ice-covered towers fit to bivouac the god spirits of Himalaya.

The last two days at Boggy Camp were most uncomfortable. We were favoured with rain, snow and gusts of wind, that threatened to tear our tents from their pins. The misery of the night was increased by the moaning and wailing of the coolies from the rocks, where they sought shelter. They probably thought to excite sympathy by this, for they had fires, and were not half so badly off as later on, when they behaved better. Before a season of marching in the Himalayas is half over, one becomes indifferent to coolie woes, for the more one

GLACIAL VALLEY ON WEST SIDE OF BIAFO GLACIER.

[*To face p.* 114.



MT. MERU, WITH GLACIAL VALLEY, WEST SIDE OF BIAFO GLACIER.

[*To face p.* 114.

pays them, or does for their comfort, the more they beg, haggle and worry one.

We broke camp on 25th July, with barometer rising and sky clearing, and, after an hour of moraine work, reached the centre of the glacier, which we followed up to a point opposite Ogre Camp. The scenery the whole way is indescribably grand. Soon after leaving Boggy Camp, a huge *falèric* of immense granite walls comes into view on the left bank, splitting midway from its base into spires and domes, rising snow-sheathed, where snow can lodge, to 21,000 or 22,000 feet, and putting to shame our old friend Cervin and all the Aiguilles of the Alps.

The immediate line of peaks on both sides are of the sharp perpendicular order, inaccessible from their bases, broken into walls and towers fantastic in the extreme, while in their chimneyed battlements most interesting studies of *Bergschrunde* constantly occur.

On the right bank glacial valleys open out every few miles. They are not deep, and are encircled by great snow peaks, that tower backward similarly to, but far more impressively than, Mont Blanc, sending down white glittering ice falls to meet the Biafo.

From Boggy Camp upward, the surface of

the glacier is less crevassed than below. A fairly smooth path exists towards the median line. Much more water is found on this part than lower down, and many streams, having the dimensions of small rivers, are met with, too wide to be jumped, whose crystal waters cut channels often many feet deep. These rivers end their visible career suddenly, plunging into the first convenient crevasse or aperture, that presents itself in their path. What becomes of their waters is an unexplained mystery, for certain it is, that the stream issuing from the end of the glacier does not contain the volume of the combined rivulets above. It seems likely that much of this water may be congealed to ice again in the cold of unfathomed abysses.

In the solid ice of the glacier, where no traces of a crevasse appear, irregular apertures occur, leading down to unknown depths. How these are formed it is not easy to explain. Into one of these, of a diameter not much greater than a man's head, a pebble was dropped, and was heard to resound for several seconds until lost in the depths.

MT. MERU, OR "MOUNTAIN OF THE SUN," ABOVE OGRE CAMP, BIAFO GLACIER.

To face p. 337.

"Full in the midst King Meru, best
Of mountains, lifts his lofty crest,
On whom of yore, as all have heard,
The sun well pleased this boon conferred;
'On thee, O King, on thee and thine,
Light, day and night, shall ever shine.
Gandharvas, Gods who love thee well,
And on thy sacred summits dwell,
Undimmed in lustre, bright and fair,
The golden sheen shall ever share.'"

Rámáyan of Valmíkí.

CHAPTER VIII

Ogre Camp—Crossing Snow Lake—At Ice Camp—A Good Dinner at Sixteen Thousand Feet—Ascent of the Hispar Pass—Mount Kailása—Stormy Descent of the Upper Biafo—At Askole again.

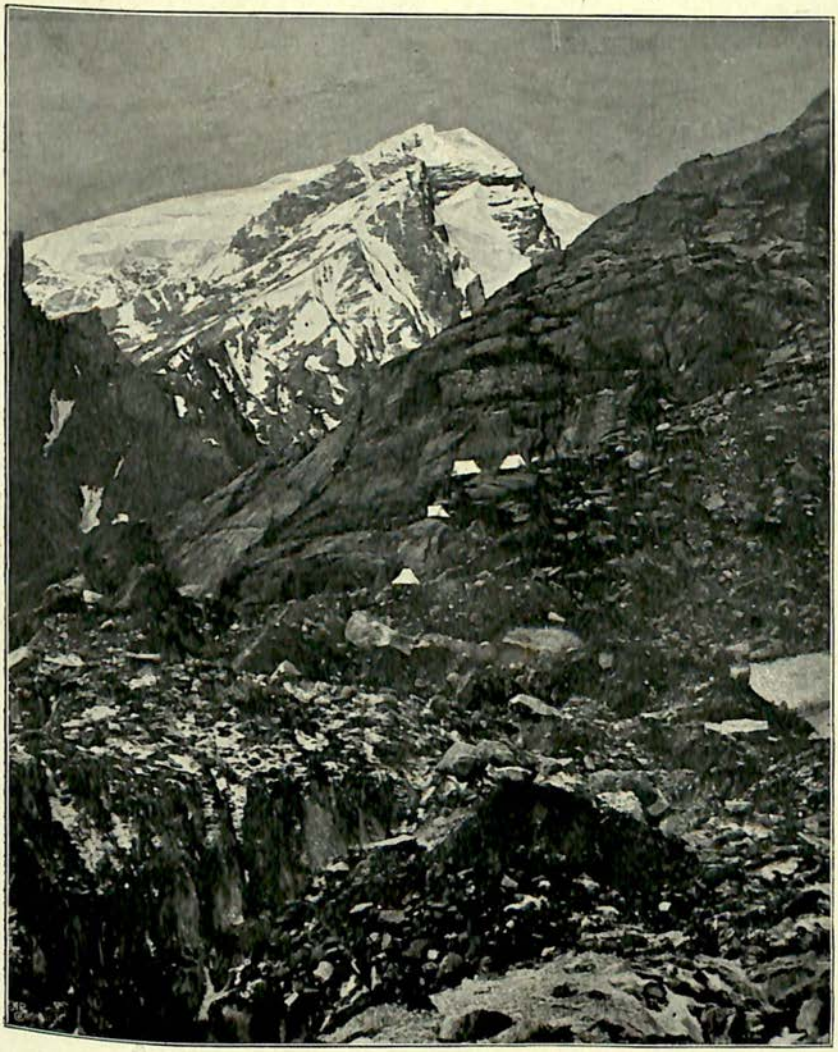
OGRE CAMP is situated on a southern spur of one of the most beautiful and impressive of the Biafo mountain *massifs*, whose needles pierce the blue at a height of 9,000 feet or more above the glacier, and at least 23,000 above the sea. We called this mountain Mt. Meru, or Mountain of the Sun, for one of the two mythical Olympi of the Rámáyan. From its face two good-sized glaciers with large *séracs* descend to the Biafo, while the snows on its rear and north flanks play an important rôle in the formation of a large tributary of the Biafo, which fills a wide valley to the north. We took six photographs of it from different points of view, which show it in as many totally different aspects, and an idea of its majesty and varied beauty can only be obtained from an inspection of them all.

The Ogre Camp was so named by Sir W.

Martin Conway, who gave the same name to the wedge-shaped summit opposite, on the eastern side of the glacier. It consists of a small grass-covered projection from a rock slant, overhanging the glacier by about 200 feet, with three terraces, on each of which there is room for a moderate sized tent. On the middle one a rock cairn, built by Mr Conway's party, stands intact.

This spot, at 14,650 feet, commands the glacier in three directions. The range of view sweeps southward to the summits that bound the foot of the Biafo, and northward, over the great white river, to those that dominate its source at the Hispar Pass. On this airy perch we passed three nights and two days, detained by weather, which was nowhere more changeable than in this region, and seldom remained fair for more than two days at a time. It turned to the good after twenty-four hours of wind and snow. On the first day we made a tour of several hours on the glacier and succeeded in getting some good photographs of the neighbouring mountains.

Being now only two marches from the Hispar Pass, we left the extra luggage and the greater part of the provisions in charge of the cook, whose none too valuable services we could



TENT TERRACES AT OGRE CAMP, BIAFO.

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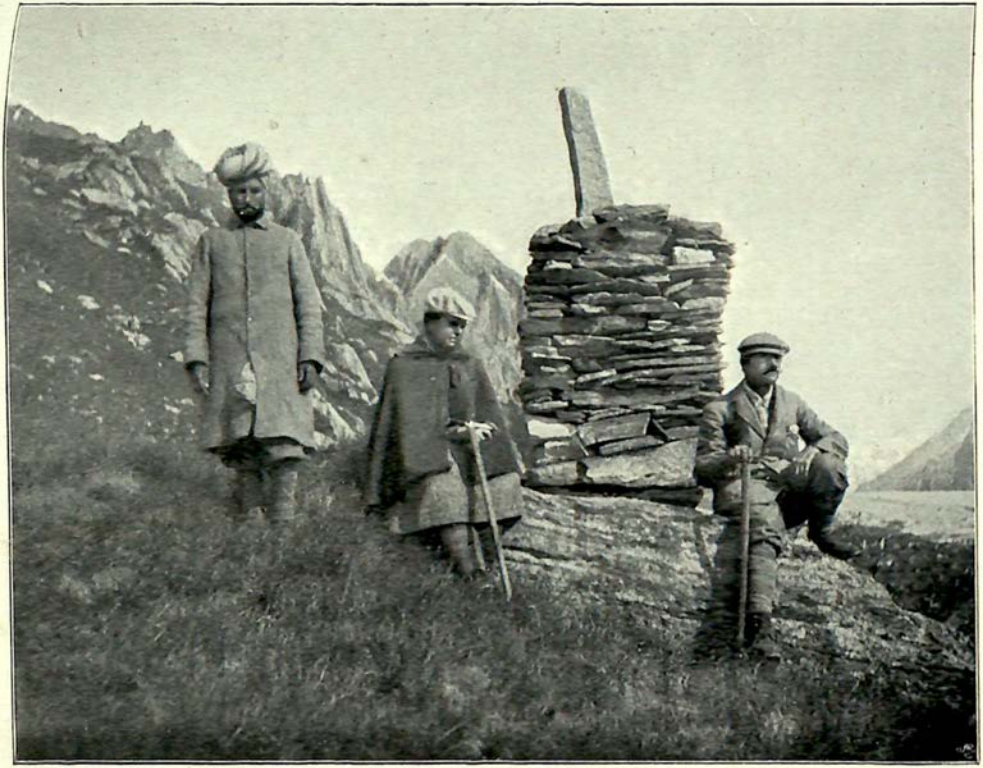


SIR MARTIN CONWAY'S CAIRN AT OGRE CAMP.

[*To face p.* 118.

readily dispense with, and, with our *bearer*, two camp servants the *Lambardar* and thirty coolies, started on the ten hours' march to the next encamping place. Marching was slow and arduous work because of fresh snow.

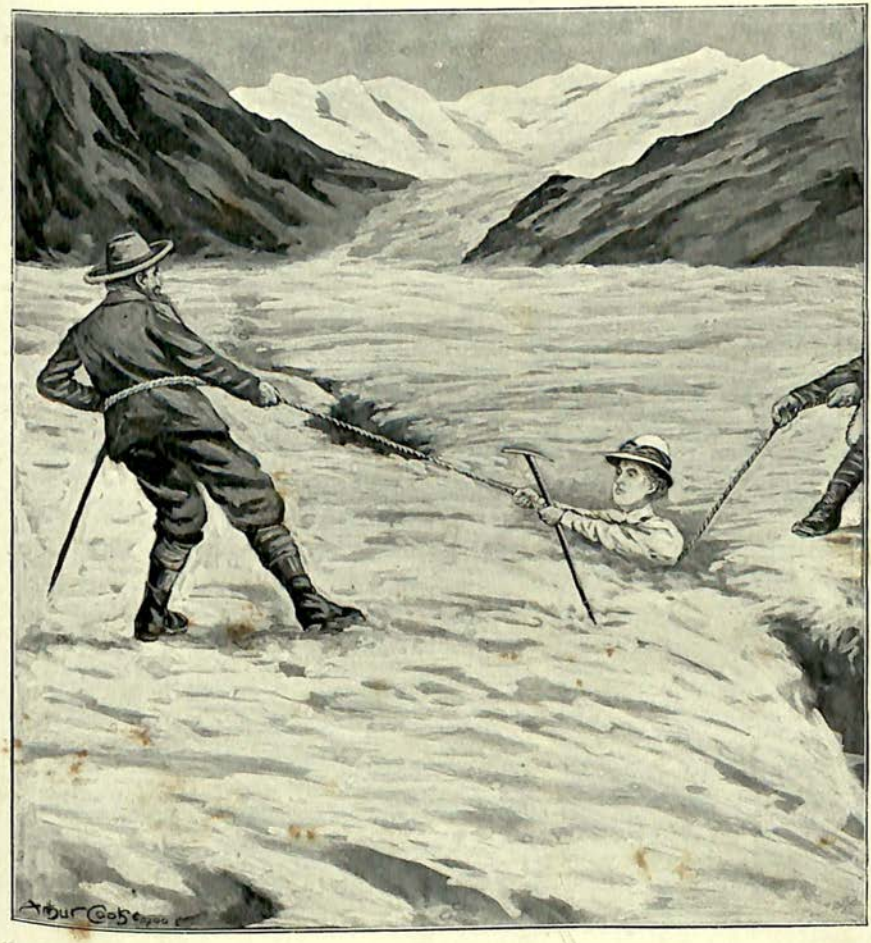
About six hours above Ogre Camp, the Biafo opens into Snow Lake, a huge basin of ice and snow, unique we believe in the Himalayas, the diameter of which, it is difficult to estimate correctly, being apparently from four to six miles. This is encircled by unexplored, unnamed ice-peaks, varying in height from 20,000 to probably 25,000 feet, between which several high passes undoubtedly lead, but the only one as yet investigated is the Hispar.

From Ogre Camp the ascent is gradual but constant. We reached the entrance of Snow Lake, which lies at about 16,000 feet at 2 o'clock P.M. The snow was now become soft, a good deal of water lay under it, and the crevasses, which were mostly covered by fresh snow, became more frequent. Here we roped as it was necessary to move with caution. The lightly-loaded coolies followed in our *spoor*. It is needless to say, that, with the wet snow and the water under it, our pedal extremities did not suffer from dryness.

The fatigue occasioned by a march can seldom be estimated by the number of hours required to accomplish it, and, certainly, that afternoon on Snow Lake may be counted as one of the most fatiguing afternoons on the Biafo. With all due care, we were constantly in snow or crevasses, to above the knees, and one of the party will not soon forget the sensation she felt on disappearing up to her shoulders in one of the latter.

Zurbriggen said, "Pull on the rope and push back with the feet." This is good advice, when there is anything to push against, but pushing against space in a crevasse accomplishes little, and pulling on a rope, when one's arms are embedded in snow, is about equally futile, but finally, by strenuous efforts on her part and hauling on that of the guide, she came out again. This form of exercise continued until half-past four, when we began the ascent of an ice slant, where each step had to be cut. This took some time at a height of over 16,000 feet after the tumbling gymnastics of the afternoon.

The Askole coolies, although a complaining rabble, stood the rarefied air much better than those on the Skoro La, and gave us no trouble on account of mountain sickness. We finally reached a narrow ice shelf at 16,450 feet, at the



IN A CREVASSE AT SNOW LAKE.

[*To face p.* 120.

base of a broken cliff, called by the Conway expedition "Snow Lake Camp," by ours, "Ice Camp." Here we found, in an angle in the rocks, a bundle of faggots, left presumably by the Conway party, which was used to supplement the wood brought with us. We pitched our tents on the ice shelf by the light of the sinking sun in the most glorious ice world possible to imagine.

As at Ogre Camp we overhung the glacier, we now, by about 500 feet overlooked Snow Lake, stretching its virgin snows on every side to the feet of the nameless gods, that guard it.

> "Northwards soared
> The stainless ramps of huge
> Himála's wall,
> Ranged in white ranks against
> The blue——untrod,
> Infinite, wonderful."

As the sun flung its last flames of fire on the towering ice pinnacles, and the purple fangs of what might be called the Himalayan aurora shot upward from the dull horizon to the blue zenith, as the twilight silence of the Arctic regions fell on the snow land, one felt, not only the overwhelming beauty, but also the intangibility of a scene, that seemed in no way of this world.

Not expecting much of our mountain cuisine, we had come supplied with Silver's self-cooking soups and American corned beef,—we always take the last named, among other meats, in the Himalayas, as a reminder, albeit not always a tender one, of "Home sweet Home,"—but to our surprise, at dinner, our clever Kashmir bearer served a leg of one of the sheep, which had been sacrificed, cooked to a turn on the embers provided by the Conway and our expeditions. One is not often favoured with roast mutton at such a height above sea level. The night was clear and still, and the minimum temperature 21° Fahr.

By 6 A.M. on 29th July, we were off to the Hispar, the morning glorious, but the barometer falling. We ascended a long, gradual snow-slope, skirting a series of ice-falls, descending from a beautiful peak to the right, seamed in places with crevasses, and later over a sharp crest before coming out on the wide pass top, the highest point of which we reached at half-past eight.

The pass is a river of pure white, driven snow, less vast only than Snow Lake below, bounded on either side by chains of lofty nameless snow-kings. The view backward over Snow Lake and the forest of surrounding giants was en-

ICE CAMP ABOVE SNOW LAKE, 16,450 FEET.

[*To face p.* 122.

thralling, as was that of the snowy world, in which we stood. To the west, the pass descends to the Hispar glacier, which could be seen running far into the distance towards Hunza. Our Watkin aneroid recorded 17,475 feet.

The day was absolutely perfect. There was no wind, and, for the altitude, the temperature was warm. We had intended, weather permitting, to try for a summit from here. One fairy-like pyramid in particular tempted our fancy. Unfortunately our purpose could not be carried out, as Zurbriggen, who had been feeling seedy for several days, said he was not equal to the task, so we reluctantly turned our steps downward. We were, however, fortunate in having the whole panorama from the pass before us, and in being able to photograph as many of the peaks as we desired.

On our return to camp, we found small rivers running through our tents, resulting from the melting, under the powerful rays of the sun, of the surface of the ice slant, on which we were encamped. The servants had discovered the intrusion of the water in time to remove our baggage to a place of safety, so that no damage was done. A trench cut with ice-axes in the ice above the tents diverted the streams down the mountain side.

In traversing the Biafo one sees, that the numerous valleys opening out from it on the west side are completely spanned by large glaciers, which have their origin in snow basins, enclosed by lofty snow mountains, rising behind the steep rock-peaks bordering the Biafo. These snow mountains appear to be considerably higher than those immediately on the Biafo, which in reality are but spurs of the former. The height of many of them cannot be much, if any, under 25,000 feet, and, if the region in which they lie is ever surveyed, some of them may be found to run even higher.

On the east side the openings, so far as can be seen, are mostly gorges, and the mountains rise more precipitously, so that no vista beyond the latter can be obtained.

The first opportunity we had to get an idea of what lay behind the eastern Biafo mountain wall at any point, was at Ice Camp, opposite which the wall terminates. Here looking south-east over Snow Lake an entirely different panorama presented itself, in which a new lofty peak caught the eye. This was situated, apparently, five or six miles north-east of the Ogre summit, and sent down a massive, curving, serrated spur, the end of which, at a distance of several miles, formed the northern point of the Biafo barrier.

ICE CHASM AND PEAK OPPOSITE HISPAR PASS ON EAST.

[*To face p.* 124.

PEAKS ON WEST SIDE OF HISPAR PASS.

[*To face p.* 124.

This peak, the Ogre and the heights between formed the base of a mountain wedge, the apex of which, directly opposite Ice Camp, guarded the Biafo entrance to Snow Lake.

As we ascended to the Hispar Pass, the new summit soared ever higher, till, at last, it was seen to crown a large and impressive *massif* which dominated the whole landscape, and bounded on the south-west a long arm of Snow Lake, from which its ice-flecked expanse rose some 8,000 feet in one tremendous precipice.

The Trigonometrical Survey Chart shows this to be the fixed peak B. 15, 23,900 feet, the highest on the lofty ridge east of the Biafo. Col. Godwin Austen sketched the summits of this ridge from a height above the Punmah Glacier, from which he obtained the same profile of the top of B. 15, that we did from the Hispar Pass. His sketch, which he kindly showed us, gives the same outlines as our photographs. The Hispar Pass and the southern arm of Snow Lake are probably the only accessible points from which more than the top of B. 15 can be seen.

We concluded to profane Hindu Mythology once more by giving this peak the name of its second Olympus, "Kailása." The Fathers of Hindu Mythology, could they have survived

the intervening centuries, would doubtless have been profoundly grateful to us for thus locating their two most important mountains, to which they themselves were never able to assign a definite position, but the service has been rendered too late to meet with recognition at their hands.

Mount Kailása is so fár removed from the sphere of human activities that we fear, the benefits its existence confers on mankind (see Rámáyan) will scarcely be appreciated by the vast majority of the present inhabitants of the world.

Notwithstanding the perfect weather in the morning, the falling of the barometer did not sound a false alarm. In the afternoon dark clouds began to scurry across the sky, and, about nine o'clock in the evening the wind rose, sweeping down the mountain slopes upon our tents in great puffs, that threatened to precipitate them into Snow Lake. All hands were busy for a time piling additional stones upon the tent ropes.

The next morning tents were struck in a snowstorm, and we descended to Ogre Camp, which, the following day, was left in a much heavier storm, and by nine o'clock we were crossing the glacier in four inches of snow, in

B 15, MT. KAILÁSA, 23,914 FEET, FROM HISPAR PASS.

[*To face p.* 126.

THE CLEARING OF THE STORM ON BIAFO GLACIER.

[*To face p.* 126.

considerable danger of falling into crevasses, or of becoming lost, in the dense atmosphere. These circumstances caused us to reflect not pleasantly on the fate of the only recorded party, that preceded Sir W. Martin Conway over this route, a band of Nagar men, who lost their way and their lives on the Biafo in a storm many years ago. We finally found the high eastern medial moraine, which we followed until midday, when the storm abated.

The remainder of the journey we made long marches, and came down in half the time it took to ascend. The coolies, elated at the return to wooded camps, where they could have plenty of fire, marched with great alacrity, and would not have been recognised as the droning band, that accompanied us upward. Our entry into Askole was honoured by the presence of the seven *lambardars* and their families, and other villagers, who stood, to receive the caravan, on the mud hut tops, clothed in their best rags and adorned with their most striking jewellery. And so ended a hard but very interesting trip of eighteen days among Himalayas' grand and silent snow-fields.

During the two days we spent in Askole to rest and collect coolies for our next move, we

took several snap-shots at the shy village folk. One of the most interesting subjects, was a maid of Askole, whom we claimed possession of for the camera, as she was beating a retreat homeward from a fountain with a couple of rude household utensils in her hands. She was a delightful subject in her tattered rags, resembling, in her perfect naturalness of pose and expression, a Bedouin from Palmyra, whom we had some years before held camera-captive on the sands without Damascus.

The Askole women appear to be exceedingly shy of strangers. What the particular ground of their fear is, we were unable to discover. One day two of them were drawing water at a small cistern near the *Sahib's* tent. On his stepping out for a moment to arrange a matter having no relation to their presence, they fled precipitately, leaving buckets and *chattis* at the cistern, and were seen no more. Although Mohammedans, the women do not cover their faces, so that this custom cannot be held responsible for their shyness.

A MAID OF ASKOLE.

[*To face p.* 128.

CHAPTER IX

Exploring in the Skoro La Range—Coolies prove trying—The Active Forces of Nature and the Law of Change—First Ascent of the Siegfriedhorn.

On 5th August we left Askole for an exploring tour in the Skoro La Range, with thirty fresh coolies under the leadership of *Lambardar* Kinchin, his battered umbrella under his arm, but the remainder of his outfit better adapted than on the last occasion to the temperatures he knew he would have to encounter. After crossing the rope bridge, we ascended over the south wall of the valley to the *nullah* leading to the Skoro La. We followed this up to the limit of wood and encamped at 14,200 feet, at a point where all the peaks of the group were in full view. Among these, we selected a beautiful silvery horn next to, and directly east of, the pass for ascension, and determined to push for it the following day.

On the 6th we continued on to the Skoro La

Glacier, fording several streams on the way. Crossing the lower part of the glacier, we bore to the left up the crest of the right lateral moraine, where we halted to rearrange our luggage, the heavier part of which was left stacked till our return. The moraine was high and narrow, and ascended rapidly towards a beautiful glacier, that swept down in a chaos of dazzling *séracs* from the circle of peaks above. As the way became steeper and rougher, and the environment every hour more glacial, the coolies began to beg to return. This we refused to do, and, having made clear to them that we had come there to go on and not to turn back, we continued to the edge of the glacier, which separated us from the peak we wished to climb.

This glacier we intended to cross that day, making a camp on the ice for ourselves and trusting to the shelter of some overhanging rocks we could see on the other side for the coolies. As we headed for the ice, the coolies began again to clamour and remonstrate, finally throwing down their loads and refusing to go on. In vain we told them they would have rock shelter on the further side. Their fear of the ice was too great. They would not go upon it.

THE SIEGFRIEDHORN FROM THE NORTH.

[*To face p.* 130.

We had had similar experiences almost daily on the Biafo, and they were to continue to the end of this excursion. Let no one suppose the ascent of a peak in the Himalayas is the most difficult part of the work. Our mountain work was not light, but we met with no hard stretch, that did not prove an easy task, compared with the frequent struggles to induce coolies to go, where many of our camps had to be pitched.

Seeing they could not be persuaded, on this occasion, we decided to encamp where we were on the edge of the glacier. There, on a moraine ledge, barely safe from boulders falling from a huge rock peak behind, we made them build up terraces for our tents with rocks. We expected to remain two nights at most on this ice perch at 16,200 feet, but before our two peaks were accomplished, five nights were passed at Avalanche Camp and a sixth higher up. Our heavy luggage was brought up, and the camp became a rendezvous for *dâk* runners with mail and coolies with provisions and wood.

The situation of Avalanche Camp was unique, and in every sense of the word, what in the German language would be called a *hochgebirg* one. The Anglo-Saxon tongue fails in such expressions as this, which conveys the idea of

the overpowering presence of snow peaks, the silent sweep of glaciers, and the thunder of avalanches all in a word. Our tent ledge was as a tiny foot-stool to the great white *sérac*-studded ice falls, that streamed in glittering masses from the basis of two great snow kings to the edge of the environing moraine. Below, only moraines, the lower Skoro La glacier and mountain flanks were to be seen. We were in a vast basin of ice and rock, surmounted by snowy peaks, where no note from the valleys could be heard, where the silence was broken only by the music of the ice streams and the roar of the avalanche.

The temperature at Avalanche Camp was fairly low at night, the minimum on three successive mornings being 30°, 29° and 28° Fahr. The coolies, when they learned we were to make this our base for several days, immediately set about constructing shelter for themselves among the boulders, against which they built up walls of rock, and, in a short time they made quite a village of huts, which afforded them ample protection from cold and weather.

It is remarkable, how much cold these coolies will endure without apparently injurious results. Their garments consisted of tunics and short *pyjamas* of coarse wool, reaching only to and

AT OGRE CAMP, 14,600 FEET,
BIAFO GLACIER.

AT AVALANCHE CAMP,
16,200 FEET.

[*To face p.* 132.

open at the knees. The legs below the knee of some were bare, though most wore the skin boots of the region. A part only of them had blankets. They spent several nights with us in the open, at elevations of from 14,000 to nearly 18,000 feet, with temperatures as low as 16° Fahr., without fires, and with only such shelter as was afforded by rocks; and yet the spasmodic, tearing, distressing cough, so common among the Indians on the hot dusty plains, was rarely heard.

Where no rock shelter is to be had, these Baltis will select a slight depression in the ground, over which they scatter twigs, leaves, or dried grass, if obtainable. Then spreading part of their clothing under them, they lie down with their naked bodies close together, using the remainder of their clothing for a common covering.

It would be wise, for any one wishing to climb in the higher Himalayas, to have at least one tent to shelter ten to fifteen coolies, who might thus be induced to go higher, than they are willing to go without such shelter. With Sikkim coolies, our four coolie tents did not count for much as an inducement, but the Ladakhis and Baltis are quite a different sort of people.

The surface rocks of the Skoro La group, so far as we could observe, consist mainly of shales, among which mica shale is largely represented. These are very friable and easily split up, which accounts for the extensive tali and great amount of detritus, both large and small, which covers all exposed surfaces. The south-west or Shigar side of the Siegfriedhorn and other adjoining heights is particularly ragged and rotten. In climbing in this region one must be careful to keep to the arêtes and avoid the couloirs, down which stones are constantly falling.

In these higher Himalayan regions, everything is fashioned on such a grand scale, and the atmosphere is so clear, that individual features seem dwarfed, and it is difficult to realise the enormous size of mountains, till one attempts to pass or ascend them. In like manner estimates of distance are illusory. Ordinary standards fail and what seems like one mile is likely to prove two or three.

Amid these vast solitudes some faint conception may be formed of the magnitude and energy of the forces, which are slowly, but none the less surely at work in changing the face of nature. Sun, frost, and moisture contending among the mountain tops, split off immense fragments of hardest rock from the massive

SIEGFRIEDHORN, 18,600 FEET, AND SKORO LA, 17,000 FEET FROM AVALANCHE CAMP.

[*To face p.* 134.

bulwarks, of which they have formed a part from the foundation of the world. Gravity seizes them within its grasp. They start from their places, they slide, they roll, they bound through the air with ever-increasing velocity. With hissings, crashings, and echoing thunders, they plunge downward in wild career, the avalanche of rock, smashing opposing obstacles, scoring and pulverising the mountain sides, sending up clouds of snow and rock dust, till they find a resting-place on the talus at the base, or imbed themselves in the glacier thousands of feet below.

These mountain fragments are borne onward by the river of ice, with its imperceptible movement of a few hundred feet at most a year, till at last it piles them, one upon another, to build a giant moraine miles from their source of origin.

A drop of water, converted by heat into vapour, is carried by air currents to some lofty mountain top, where, congealed by frost, it is deposited as a snow flake. By cold and pressure it is cemented to others of its kind to form an ice mass, in whose frigid embrace it remains locked for hundreds, perhaps thousands of years, undergoing, in the economy of nature, various changes of position, till it

becomes a part of the descending surface of some great glacier. Here, under the influence of the sun's rays, it is changed for the fourth time into its original form of water.

Gravity quickens it into life. The drop begins slowly to move. The touch of a feather would efface it. But soon, uniting with other drops, it forms a little rill, then later a rivulet, which ripples laughingly over the surface of the glacier, as it hurries busily onward to join the myriad train, which sparkle in the sunlight towards a common goal of union. After leaving the glacier, the rill, swollen in volume to a mountain torrent, plunges downward in cascades and waterfalls with a roar, which attests the power and force it has acquired. What touch could efface it now? What could stem its tide? The mountain torrents combine, and, emerging on the plain we behold an Indus, a Ganges, which moves onward with majestic flow to feed the ocean.

Everything around, the mist that veils the mountain heights, the storm which mantles the landscape in white, the movements of the glacier which seam its structure with crevasses, and cleave it into thousands of ice needles, the slow but constant disintegration of the rock-born sentinels, that tower frowning far aloft

THE WHITE FATES FROM AVALANCHE CAMP, 16,200 FEET.

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proclaim the action of an inexorable law of change, that no creation of God or man can withstand.

But while this law works for the destruction of created form, it is also an important factor in the recreation, which is everywhere taking place. Under the action of heat, cold, moisture, the avalanche and glacier, the mountains are ground to powder, but that powder forms a rich alluvium, which is carried down by floods and spread over the exhausted fields below, causing them to bear wheat a hundred-fold, where otherwise only tares would flourish.

Without the allotropic forms of water conditioned on the law of change, vast areas, that, in their seasons, are now beautified by a vegetation, that not only appeals to the aesthetic senses, but supplies necessaries of life to men and animals, would be desert wastes.

At five o'clock on the morning of 7th August, accompanied by two of the more valiant coolies as porters, we started across the glacier leading to the base of the peak selected for ascent. A few fleecy clouds were scudding about high above the mountains, and the white horn from its glacial base rose gracefully towards a clear ever brightening sky. Good weather was indicated, and we were full of anticipation of

success in conquering this our first virgin summit. All were feeling quite fit except one who started with a headache. We took a more direct and difficult route, than we should have chosen, had the coolies consented to go the previous day.

An ordinary Swiss guide would most certainly have been puzzled, and doubtless have lost some hours finding his path through the labyrinth of *séracs* and crevasses that confronted us. Not so Zurbriggen. He led us in and out, over and around them, as if a path existed and was not for the first time being trodden out. Mountain instinct seemed to lead him the quickest way among the great ice blocks, that often cut off the view of what lay beyond, and, before we thought it possible, in less than three hours, we had passed the *séracs* and were taking a light breakfast on a sloping snow plateau.

One of the coolies, regardless of the fact, that we had shod him for the occasion in hob-nailed boots, chattered and gesticulated, and did his best to show us, we were on, what he thought was, the wrong road. As a matter of fact, neither of these attendants had any idea they were to be led up a mountain, and wished to show us the way to the pass.

SUMMIT OF SIEGFRIEDHORN, 18,600 FEET.

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Having passed the plateau, we ascended some rather steep snow slopes of the main peak. Above these we had to pick our way for an hour, over large rock slabs, when the final snow arêtes began. These led us past a lower rock summit to the highest one, about thirty feet above, which consists of a long, narrow and fairly firm snow cornice. Our porters, who had been complaining of their heads and asking to return during the last 1,000 feet, threw down their loads and went to sleep on the rocks.

We were five and a half hours from camp to the summit, the height of which, taking the average of the Watkin and Cary aneroids, we placed at 18,600 feet. The temperature at eleven o'clock was 56° Fahr. The view was very beautiful, particularly towards the north and east, where Masherbrum was clearly seen, raising its great white ramparts heavenward, and beyond, ridge upon ridge of the wonderful heights of Korakoram and Hunza. Nanga Parbat, partly veiled in cloud, was but imperfectly seen. Towards the south the monsoon influence was observable in the murky atmosphere and heavy rolling clouds, while, towards Askole and the Biafo, the sky was nearly cloudless.

We named the mountain the Siegfriedhorn. There were two reasons for giving it this name. The first was a personal one, the second, that the circumstances connected with the ascent harmonised perfectly with the chosen title. *Sieg* or success had crowned our efforts, and there was *Friede*, peace, at the summit in the windless sun-warmed silence, that reigned throughout those upper regions on that day, a silence broken only, now and then, by the voice of the distant avalanche.

With the assistance of the porters a strong cairn was built on the rock summit, which is a ledge twenty to thirty feet wide crowning the ragged, shaly wall, which falls away in a perpendicular precipice into the Skoro Nullah several thousand feet below. In this cairn we left our cards, enclosed in a glass jar, bearing our names, height of mountain, and a record of the ascent.

In descending we encountered a good deal of soft snow, particularly while traversing some beds of *névè*, and had to keep a sharp look-out for unseen crevasses. We reached camp at 4 P.M. when the servants eagerly asked if it was really the *Memsahib*, they had seen on the top of the mountain.

OUR CAIRN ON ROCK LEDGE ABOUT 30 FEET WIDE, NEAR SUMMIT OF SIEGFRIEDHORN.

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CHAPTER X

Life at Avalanche Camp—Zurbriggen makes a Reconnaissance—We move Upward—Coolies again in Evidence—Spirit Manifestations at Haunted Camp—First Ascent of Mt. Bullock Workman—Discovery of Large Crescent Glacier not on Survey Maps—A Wonderful Panorama—Return to the Shigar Valley over the Skoro La—A Swas.

WE remained two days at Avalanche Camp waiting for good weather. In the afternoon, on our return from the Siegfriedhorn, the clouds, we had noticed in the south, came rolling over the mountain-tops and covered the sky. The next morning when we awoke, the sides of our tents were deeply pressed in by snow, which covered them in such quantities, that its weight caused many of the pegs to be loosened from their insecure fastenings among the rocks. The snow was dislodged by vigorous beating from within, and the coolies were called to scrape it away from the entrances, so that we might comfortably get out for a look around.

By ten o'clock the sickly sun had melted the greater part of the newly-fallen snow, when the

Memsahib started out for a walk. But pleasure-walking from Avalanche Camp resembled too strongly preliminary pathless mountain-climbing to prove attractive. An ice-axe was a better companion than a walking-stick, as it was all either a clamber up and down treacherous moraine, or a slow pottering about crevasses and *séracs*. A few hours of this amusement quite satisfied one's desire for exercise.

Waiting in camp at over 16,000 feet in uncertain weather is not just the same sort of thing, that waiting in a Swiss or Tyrolean hotel or mountain hut is. By noon a snow squall again obscured the sky and made open tents most uncomfortable, and closed tents most dismal. Later on, the sun deigned to warm us a bit, and, at sunset, the tall summits bathed in purple or glistening in a white veil, thrown around them by the storm king, caused us to forget cold feet and cheerless surroundings, in temporary enthusiasm over ice-world beauties.

Then night settled down, and, after dinner, instead of sitting about a log fire and listening to the wind playing around the eaves of a well-built cabin, one was glad to avail oneself of the solace of a sleeping-bag, grateful for its warmth, and lay fearing to sleep, lest the next howling blast of wind should rend the tents from their moorings.

Such is life in a camp higher than the summit of Mount Blanc, when the elements are warring.

We intended to try for, what appeared from our camp to be, a lovely white cone, the fifth removed from the Siegfriedhorn, and one of a trio of snow-corniced peaks, which we called the White Fates. Its glacier, tremendously crevassed and broken into thousands of *séracs* of huge proportions, fell abruptly about half-an-hour above the camp, like a great congealed water-fall. The height of this fall could not have been less than 500 feet. To attempt to ascend, ourselves, over its side would be bad enough, but there would be no chance to bring coolies through. To get around it on the right would involve a long detour upon the glacier, also undesirable with coolies. On the left an exceedingly steep talus of shale from the high rock peak behind would have to be ascended, and then a sharp rock shoulder exposed to falling stones, traversed.

These were the only routes by which we could reach the base of the peak, and, as the last seemed to be the most practicable, Zurbriggen went up on the first day of our detention to see if a passage could be effected. We had decided, from the bird's-eye view of the region obtained from the Siegfriedhorn, that, if we could sur-

mount the difficulties at this point, it would be possible to encamp on a bit of moraine-covered glacier under the base of the peak.

Zurbriggen returned with the news, that with lightly loaded coolies we could get over the place. So the order to have a certain number of the younger men ready to start the next day was given, but the weather did not warrant our going.

On the morning of 10th August, the weather promising well, we started from camp at ten o'clock. We noticed, after we were off, that Kinchin, seeing the region we were headed for, had judiciously remained behind with the *khansamah* and extra coolies, leaving to the *Sahib* and *bearer* the task of driving the unwilling coolies onward.

After we had wrestled for an hour with the sharply ascending moraine and had got well at work on the steep talus, which certainly was one of the most disagreeable places of its kind we have contended with, the coolies called to us to stop. This producing no effect, they threw down their loads, and came up to us as quickly as the shifting nature of the soil permitted, begging, chattering, pointing up at the mountains and shaking their heads.

It was not to be wondered at, that the savages

HIGHEST SNOW PEAK OF SKORO LA CIRCLE, PROBABLY 20,500 FEET,
FROM MT. BULLOCK WORKMAN.

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did not like their task. The talus was composed, not only of rocks and slabs, but also of much loose fine detritus, piled together at as steep an angle as such stuff will lie, its surface covered with small pieces of slippery mica shale. Ascending it required considerable effort, as, for every two steps forward we slipped back about one. There was however no danger except that from falling stones, and there was not the slightest question as to the ability of the coolies to stand the twenty minutes sharp climb necessary to reach the nasty-looking rock shoulder above, over which we felt certain they could pass, if they were coaxed up the talus.

As examples, the *Memsahib* and Zurbriggen plodded on ahead, while the *Sahib* and the *bearer* tried to make the coolies understand, that all difficulties were speedily to be ended, but explanations only made them more garrulous, and no loads were resumed. The *bearer* now tried the effect of his stick on those within his reach, but with no better success. They ran out of his way, and he could not be expected to pursue them at this altitude.

We were face to face with a crisis, somewhat similar to the one which had wrecked a costly expedition in Sikkim. To yield to the coolies now meant the loss of the mountain ahead, and

of anything further that might be attempted. Authority must be maintained at all hazards. Therefore without more waste of words and as a last resort, the *Sahib* began to bombard the crowd vigorously with small stones, which lay plentifully at hand.

After several of these had found their mark, and many more had been sent whizzing over the heads of the retreating coolies to show them, they were still within easy range, the latter came to the conclusion, that the business had become serious, and that they had best resume their loads, which they accordingly did without further protest, and the train slowly continued its upward march.

Their fears were again aroused, when we came to the shoulder at a height of 17,375 feet, where we were on an abrupt rock edge and for fifteen or twenty minutes in much danger from falling stones, but, on being sharply rebuked, they went on. We had both seen and heard rocks tearing over this place at all hours during the previous two days, and considered we should be fortunate to escape an encounter with them at this time. But we did, even to the slow-moving coolies, who, when compelled to do so, passed over the place with perfect ease. After this, the exceptional difficulties of the day were

HAUNTED CAMP, 17,375 FEET, AT BASE OF MT. BULLOCK WORKMAN.

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over. At the base of the mountain we found the spot on the glacier, which had been selected for a camp from the Siegfriedhorn.

This was the best of our very high camps. Its altitude was 17,375 feet, and it was on the glacier, but the place was level, protected from wind, and, when covered with flat stones from the moraine, made a fairly comfortable surface. The beauty of the situation surpassed that of the lower camp. The Skoro La, at 17,000 feet, lay across the great snow basin with its glaciers, directly in front, at the lowest point of the deep gap between the Siegfriedhorn and the next mountain to the north. As we looked over this gap, we saw a most exquisite view of white and purple peaks towering in a golden evening sky, forming a heavenly aquarelle framed in snow by the outlines ascending from the pass to the peaks on either side. This view proved to us, that our aneroids were doing good work, as we could see well over the pass by some 400 feet, as nearly as we could estimate by levelling.

Our camp stood at the opening of a *cul-de-sac*, one side of which was formed by the ramparts of ice we were to attack on the morrow, the rear and the other side by walls of rotten shale, which shot up sharply into a series of needle

points 3,000 to 4,000 feet above, and whose shivered fragments covered all the surface around and furnished material for stone avalanches, which thundered down throughout the night.

The spirits of the glacier having, apparently, decided to warn us off from any further intrusion on their domain, we called this bivouac Haunted Camp. They went to work in this wise. Two of the party, when awake in the night, noticed distinct writhing movements of their beds on the glacier, not unlike the sensation experienced during a slight earthquake shock. Later, while one of them lay awake, she was conscious of the sound of approaching footsteps, not those of a coolie groping around for a sheltering rock to sleep under—a common enough occurrence—but the regular, quick tread of a man's booted foot on a polished floor.

It seemed to approach steadily, growing louder as it neared the tent, then ceased and began the promenade again. No goat-skin-shod coolie, nor Alpine-booted European could walk over moraine and ice with such regularity at the dead of night. Only an ice-spirit could put on patent leather boots, and turn the irregularities of such a surface into a hard wood floor to tantalise uninvited visitors.

SUMMIT OF MT. BULLOCK WORKMAN SHOWING OUR SPOOR.

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The morning of 11th August broke cloudless and cool, 21° Fahr., and six o'clock saw us off for the mountain. A short, rather steep stretch of moraine and glacier brought us to a bold, crevassed ice slope, which led to the snow-fields above. This we ascended in zigzags, step cutting being in order for about an hour. We were roped from the beginning of this slope. We had the same two coolies as porters, who, for the extra compensation they received, were willing to run the risks of a second ascent. They were now become fairly expert in placing their hob-nailed booted feet in the steps cut, but they had to be constantly watched and admonished, not to crowd one upon the other. It was far from pleasant on the steep crevassed ice slopes, overhanging a basin 1,000 feet below, to hear Zurbriggen calling to the stupid fellows to move with care, and keep the rope taut between them, adding each time, that if one mis-step were to be made, we should all perish. These admonitions given partly in German, partly in English and Hindustani, failed to impress the coolies, and in a most critical place, they sat down to take snow out of their boots.

We were on the shady side of the mountain and felt the cold quite severely for the first

three hours, after which the sun reached us. There was no rock work. The ascent, from a short distance above our camp to the summit, was over a succession of ice and snow slopes, some of them steep. The last arête, some 400 feet high, rose at an angle of about sixty degrees. New snow covered the route, increasing in depth as we ascended, until, on the last arête, it lay fifteen inches deep.

We reached the top, 19,450 feet, at ten o'clock, four hours from camp, which time in no way represents the difficulties of the ascent, which began at Avalanche Camp, seven to eight hours below. The ascent of this mountain is much more difficult than that of the Siegfriedhorn, in respect of rock work between the two camps, and the sharp, crevassed ice slopes and other qualifications of a first-class peak above Haunted Camp. Speaking from the point of view of ordinary Alpinists, whose knowledge is born of experience with many of the best known mountains of Switzerland, Tyrol, the Dolomites and some of the numberless untrodden ones of the Himalayas, we should say, unless the climbers are experts, this is not a mountain to be attempted without a competent guide.

We ate our breakfast with good appetites, and, except for some headache and loss of

THE SUMMIT OF MT. BULLOCK WORKMAN, 19,450 FEET.

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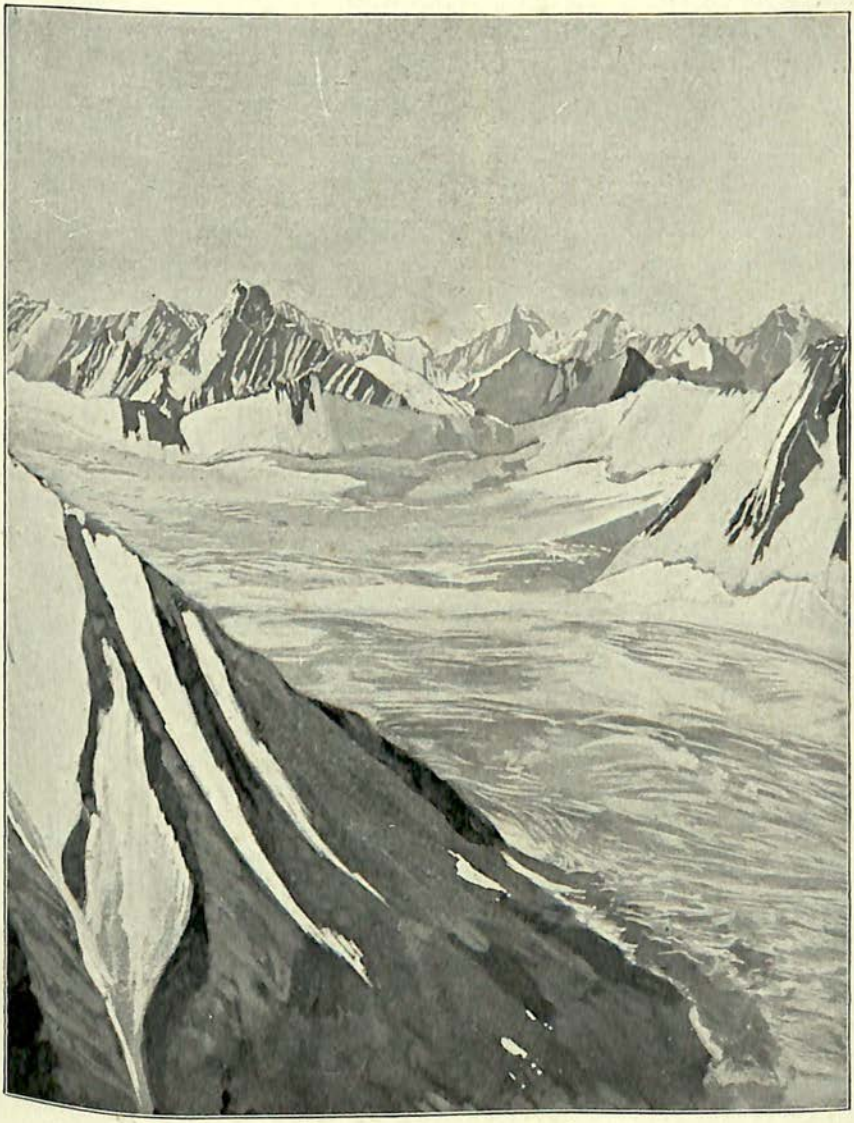
breath on sudden exertion, suffered in no way from the altitude. One important condition of coming to the top of a mountain feeling fit, is, to move slowly and steadily throughout, avoiding spurts. We named the peak Mt. Bullock Workman, and left our cards, with name given and record of ascent in a glass jar, in the snow, at the highest point. The temperature at ten o'clock was 56° Fahr., about the same as on the Siegfriedhorn. The wind was light.

The top of Mt. Bullock Workman consisted of a long crest of driven snow, so narrow, that not more than two persons could comfortably stand abreast on it, and the only access to it was at the north end, by which we had approached. On the west, the slope ran sharply down, some 2,000 feet, to a glacier, while behind on the east, by leaning over the edge, we could look down a perpendicular of several thousand feet upon another huge and important glacier, which swept far away toward the east, winding among the escarpments of wild peaks, that sent down large feeders to the main stream.

The glacier makes a broad bend nearly opposite the base of Mt. Bullock Workman around that of a long ascending arête. This

arête, in a depression of which K2 is seen, and over which, more to the right, the Golden Throne, culminates in a summit, which a careful study of the Survey of India map shows to be the fixed peak Trans Indus 13 or Mango Gusor, 20,602 feet. We had before us in full view across the valley the whole side of this mountain from the glacier to its summit, its precipitous rock ribs seamed with snow, embracing two good-sized glacial basins, with well-marked *Bergschrunde* and broken, sharply descending glaciers. The large glacier, which we called Crescent Glacier, and the upper part of which, we are probably the first to see, and certainly to photograph, extends below the bend into a valley, opening about opposite the embouchure of the Biafo. The lower portion is indicated on the Trigonometrical Survey map, but not that above the bend. Nearly its entire noble course may be seen from Mt. Bullock Workman. Owing to deep shadow and its situation almost directly beneath where we stood, the lower part could not be photographed.

We had not expected to find the view so grand, so uninterruptedly beautiful and extensive as it proved to be. To the east, the magnificent pyramid of Mt. Godwin Austen was seen, undimmed by cloud, as were Masher-



PART OF CRESCENT GLACIER FROM MT. BULLOCK WORKMAN.

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brum, the Golden Throne, and a host of others. To the north the great castellated rock peaks and snowy giants of the Biafo and Hispar lined themselves against a pure cerulean background for our farewell inspection, and the peerless Nanga Parbat of cloud renown, illumined the western horizon with golden beauty, her towery summits rising to meet the deep blue of a cloudless sky.

Among other details of the glorious and extraordinary view were nine known and named summits, six of which have been fixed by the Survey of India. We were able, although necessarily on a small scale, to photograph seven of them. The eighth, the queen of Chilas, stood in such a blaze of sunlight, that our camera was powerless to capture her image.

Later, in looking over Col. Godwin Austen's original drawings at the office of the Surveyor-General in Calcutta, we found that the outlines of some of the peaks of this region, drawn by this distinguished surveyor some forty years ago, corresponded almost exactly with those obtained with our camera.

The descent to Haunted Camp was made without accident, although the snow had softened, rendering the steep slants somewhat precarious and decidedly fatiguing. Zurbriggen

thought it best to change our route somewhat towards the last, so as to avoid the couloir we had traversed safely early in the day, but where, now, stones were falling.

On arrival at Haunted Camp, the headache, which we both felt slightly at the summit, had become quite severe. However, after taking hot tea, we packed our baggage, and, leaving beautiful Haunted Camp to the care of the glacier sprite of the patent leather boots, continued on downward to Avalanche Camp. Having left behind the devious ways of the unknown, our coolies went with good speed and no murmuring over the troublesome rock shoulder and shifting talus, the scene of our trials on the previous day.

Just before reaching Avalanche Camp, we came to a gully several feet deep and perhaps a hundred wide, cut into the moraine by a *swas* or mountain flood, resulting from the bursting of a barrier of ice or loose débris confining a body of water higher up. The *swas* had occurred the afternoon before in our absence, and swept around the base of the hillock, on which our encampment stood. Had the tents been pitched 200 feet further south, they would have been directly in its path. It is remarkable what power such a flood has, to

Mango Gusor, 20,602. K 2. 28,250. Masherbrum, 25,676. Golden Throne, 23,600.

FROM MT. BULLOCK WORKMAN, LOOKING EAST.

[To face p. 154.

excavate a channel in a terrain such as this, composed of rocks firmly packed together.

The next day, 12th August, we crossed the Skoro La, en route to Askor Nullah and the Shigar Valley. At the pass we stopped for a farewell look at the towering White Fates, one of which was now our own best cone. Filmy vapours were tossing about near its dazzling climax, soon dancing away merrily, to gather, perchance, in force around the seven giants, that ever overlook in Titanic majesty the snowy sextette, that form the southern side of the Skoro La *cirque*.

On this occasion, with lower pressure, indicating the approach of bad weather, which appeared the next day, our Watkin registered 17,150 feet at the pass, and the average of the two readings on this pass was 16,975 feet, differing by only twenty-five feet from the height of 17,000 commonly assigned to it.

As we descended the steep declivity toward Askor Nullah, we could see, till we reached the river three hours below, our cairn on the Siegfriedhorn, perched apparently on the edge of a V-shaped depression, considerably to the right of the pass, the last visible reminder of the hardships and successes of the preceding days.

When we reached the Askor torrent at 2 P.M. we found the water too high to permit of fording it, so we were obliged to encamp on its left bank until the next morning. We were selecting a place to pitch the tents, when our attention was attracted by a peculiar rumble above. Far up the gorge, just below the glacier, appeared a dark serpentine object, with high crested front, coming towards us, following the windings of the stream. So rapidly did it advance, that there was barely time for the coolies to snatch up their loads, which fortunately had not been opened, and carry them fifty yards up the incline, before it was upon us. The dark, slate-coloured mass, some sixty or more feet wide and twenty to thirty high, presented a plastic appearance, and consisted of mud and stones of every size, some of them many tons in weight, which were rolled over one another, as if they were pebbles.

This ponderous mixture of solid and semi-solid bodies moved with all the freedom and facility of a liquid, but with greater devastating power. A moment more, and its lofty front shot by with irresistible force and a crashing demoniacal roar. The rock-packed banks of the river crumbled into the rushing torrent, and large boulders toppled into and joined the

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VIEW NORTH FROM MT. BULLOCK WORKMAN OF BIAFO MOUNTAINS.

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mad procession, as if cohesion and gravity were bagatelles of the shadowy past. Rock masses ten to fifteen feet in diameter, lying in its course, were swept away to be seen no more. The terrific energy displayed by this cataract of rock was in a high degree awe-inspiring, and we were held spell-bound while it lasted.

A part of the flood, which was diverted from the rest by an obstruction some distance above, cut for itself a new side channel about six feet deep in the hard stony soil and rejoined the main column opposite where we were standing. In about ten minutes the *swas* spent its fury, leaving the river bed scoured and altered, and the banks torn and ragged. Colonel Godwin Austen in his report, published in the journal of the Royal Geographical Society in 1864, mentions seeing a *swas* at this very spot. He says: "No one, who has not seen a flood of this kind can form any idea of the mighty power of transport, which the accumulated masses of water and melting snow acquire at these times, and I was almost bewildered by the spectacle."

The next morning we continued our march down the *nullah*, fording the stream, as previously, a dozen times, and reached Askor Nullah in the Shigar Valley at one o'clock.

CHAPTER XI

Koser Gunge from the Shigar Valley—Three Days at Wooing Camp—More Coolie Complications en Route to our Highest Camp—The Escalading of Steep Arêtes—We attack Snow Slopes and encounter Cold, Wind, and Storm—The Conquest of Koser Gunge.[1]

FACING Shigar to the north is a grand mountain of over 20,000 feet. Whether one looks out from the broad polo ground, or from the shaded enclosures of the scattered village, it is ever the dominant feature of the landscape, its high rock slopes, clothed with green at the base, soaring upward to meet vast snow-fields, which culminate in a glittering white dome.

Neither the native, who tills the soil, nor the *Raja*, who dwells in the palace, could tell us its name. And so we turned to the Survey of India map, and found there a snowy height indicated under the name of Koser Gunge.

[1] A paper by Fanny Bullock Workman on these three pioneer ascents appeared in the "Alpine Journal" of February 1900, and also descriptions of these and of the Biafo expedition in the "Allahabad Pioneer." Portions of the earlier chapters were published in correspondence of W. H. Workman with American newspapers.

The peak has been called by some Europeans Kos Gan, but this name does not appear on any authorised map. Gan is said to mean glacier in the Balti language, and, if Gunge is derived from Gan, we arrive at a translation of half the title.

We left the great dome shining serenely on the valleys below, when we crossed to Braldu. From Mount Bullock Workman we recognised it again, but now only as a spur of an apparently higher peak. In fact Koser Gunge is a *massif* with several peaks, the highest of which is barely seen from the Shigar Valley, resembling in this respect the Kolohoi group, of which the beautifully shaped Gwashbrari, as seen from the Lidar Valley, plays but a Cinderella part, put quite in the background by her more pretentious sisters.

On our return to the Shigar Valley we decided to try to locate the real summit, and, if possible, climb it. Kashomel, one march from Shigar, was obviously the starting point for the white dome, to grapple with which would have been, relatively, an easy matter, but that was not our goal. The other peak lying behind in unbroken snow-fields haunted us, and we went half a march beyond Kashomel to Yuno at the base of another spur of the

massif. From here 5,000 feet of steep grass and earth slopes, followed by nearly 6,000 of sharp rock wall, end in a jagged arête, above and back of which, a small part of a snowy height is seen. The white dome, separated from this by a rock shoulder and glacier, stands plainly forth, much to the front.

Yuno lies on the edge of an arid fan at the base of Koser Gunge. It consists of twenty to thirty huts, built in a rambling manner among apricot and poplar trees. The villagers cultivate sufficient land in terraces to provide grain for their wants. We found no grass, upon which to encamp, and were obliged to pitch our tents in a ploughed field, from which the crops had been harvested. The midsummer sun beat down mercilessly upon us from ten o'clock A.M. until sunset, and its heat, reinforced by that reflected from the high mountain walls on both sides of the valley, seemed almost unendurable. A double fly-tent became uninhabitable after the former hour, and we moved chairs and tables out into the meagre shade of the apricot trees, where the glass registered 88° and 92° Fahr. respectively, from two till four o'clock on the afternoons of 18th and 19th August, and this at a height of 8,800 feet above sea level.

Zurbriggen crossed the river on a *zak*, a raft made of inflated goat skins, to the further side of the valley, to see if a better view of Koser Gunge could be obtained. He made up his mind as to which was the real top, but the valley was not sufficiently wide to enable him to see enough of it, to determine how long a time would be required to reach it from the rock edge, 11,000 feet above. The route was, clearly, from Yuno up the earth and grass slopes, and then over the great rock wall, wherever a footing could be found to the arête.

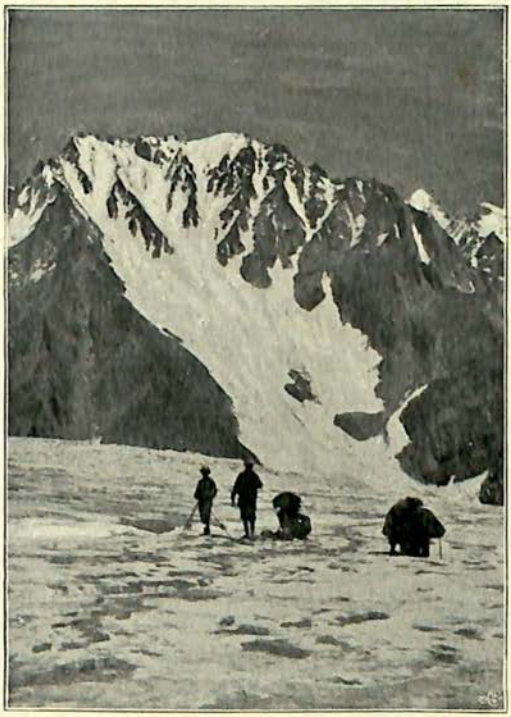
During a three days' wait for coolies to be procured from the scattered villages, Yuno being too small to furnish the number required, we studied this stony fastness with Zurbriggen with a view to locating our high camps. A grass ledge, at a height so far as we could judge, of about 15,000 feet, was selected as a place for the first encampment. Through the glass, water could be seen in a couloir near by, and wood was not far below.

The second camp only one with the explorer's instinct and knowledge could have chosen from the valley. This Zurbriggen did, and, far up beyond rock precipices, on what looked like a shelving stony talus, he said we should find a sort of plateau. Snow lodged among the rocks

from the last storm must furnish water, unless a stream flowing from the snows above should be discovered in some neighbouring couloir. This place seemed to be at a height of about 18,000 feet. Wood would have to be carried up, besides the usual luggage, and the question, how coolies were to be induced to scale those dizzy slants, even with light loads, presented itself. This problem, always hardest of all to solve, was here placed before us in its worst aspects, for we never could reach the top, unless we could make that second camp.

Leaving our valley tents below, we started on the morning of 20th August, with a rather unpromising sky, to try our fortune on the mountain. Owing to the nature of the work required, the *Lambardar* had been told to select the coolies from the youngest and strongest men available. When the applicants for loads appeared several Shigar Valley centenarians were found well to the front. As everything was ready for the march, and the season was already rather advanced for high climbing, we felt we could not afford the time necessary to procure others, so the ancients were allowed to shoulder their burdens, which they did with exceeding slowness.

Not knowing how long we might be detained



PHOTOGRAPHING ON GLACIER.

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on the mountain, a sheep had been ordered of the *Lambardar*. He brought it late on the evening before our departure, as village chiefs are prone to do, seeming to prefer to exhibit their live stock at dusk or by the faint light of a young moon. The *Lambardar* and three village elders accompanied their charge. We noticed its colour was black, but it appeared plump and gambolled so nimbly about, that we closed with the rather high charge made, as it seemed to be just the animal to make an active march on the morrow.

On the following morning the lively lamb, or its possible substitute, proved a very black sheep indeed. After walking a few steps, it absolutely refused to stir, and no amount of coaxing, beating, pushing, dragging, or punching with an alpenstock was of any avail. We were compelled to hire a coolie, who was at once forthcoming, in fact, seemed to be expecting the job, to carry it on his shoulders to the first encampment. This was an intelligent as well as a black sheep, for, on reaching the journey's end, it nibbled the grass and frisked about, as on the previous evening, seeming to prefer taking its exercise on a level to scaling heights.

Once started, the old chaps, in spite of some grumbling, did as good work as the younger

coolies, and, after seven hours of rather stiff climbing, our baggage was landed on the grass ledge previously selected, which proved to be a knoll and a very comfortable place for a camp. Its height was 14,600 feet.

Toward evening the clouds, which had hung over the mountains during the day, moved off, and later a bright, moonlit sky augured well for an early start on the morrow to the rock regions above. We had an excellent moonlight view of the Shigar mountains, over which to the north-west, the impressive form of Mt. Haramosh rose like a silvered tent.

The next morning at sunrise the heavens were radiant, but shortly afterwards misty clouds arose, covering the great dome of the lower peak, and also completely cutting off the view of the route we had to take. Between eight and nine, the hour when mountaineers look for a change in the weather for better or worse, rain and wind set in, and all hope of striking tents that day was abandoned. By evening things looked more promising: the great rock battlements unfurled themselves, to our dismay, completely frosted with fresh snow. The night was fine, the following day again uncertain with more light snow above, which meant a much deeper accumulation on the snow-fields higher up.

Coolies went to Yuno for extra *rasad*, and we climbed up and down the grass slopes for exercise and recreation, discussing the value of signs Swiss wiseacres profess to believe in, such as, the grazing of cattle upward or downward, and the movement of mists towards or away from the heights. During the time of our probation here, the latter moved in every direction, and the *yaks* and cattle, which grazed contentedly far below the camp by day, moved up every night, when all was quiet and every one wished to sleep, grunting dismally and entangling themselves in the tent cords.

When our despair was blackest, we took to reading a traveller's account of how he tried to reach Lhassa and failed, and this helped to pass away the time. The aneroids offered little comfort, for they steadily indicated a low pressure. The clouds swirled over and under the dome, now leaving it clear, again sheathing it in mist for hours. We hungrily hailed every break in them, every slanting ray of sunshine, and, for want of a more imaginative term, christened our bivouac the Wooing Camp.

On the third morning the index of our Watkin Patent took a leap upward, and Zurbriggen, in a moment of elation, although the weather was far from promising, decided to scale the as yet un-

trodden rocks above, and see for himself what kind of a halting-place could be found for the next camp. Off he went, with ice-axe but without a mackintosh.

About two hours after his departure, a *bourrasque* of wind nearly unpinned all the tents, and the servants were kept busy for a time tightening ropes and bringing stones. This was followed by a brisk hailstorm, and down went the index of the Watkin aneroid. With all made snug and ready for whatever might come, we ate a rather mournful *tiffin* served by the shivering *bearer*. As the hail bounded off the tent top, and the wind gusts made the poles give and creak, pictures of Zurbriggen sitting behind a rock or in a cold couloir at 18,000 feet passed through our minds. That he must be cursing our best and favourite aneroid could not for a moment be doubted. A few long, reverberant peals of thunder were followed by a short downpour, and silence reigned again at Wooing Camp.

Towards five o'clock Zurbriggen returned, his face rather purple from exposure, but otherwise in good condition. His descriptions of the weather were not conducive to hopes of an early ascent. He said, that, without gloves or a heavy coat, he had never faced such cold

nor been so near to being frozen, and even affirmed, that, on his reconnaissance trips to Pioneer Peak and others, the cold had been mild in comparison. With expressions of contempt for all aneroids, he disappeared into his tent remarking, that, like the marmots he should remain invisible until the weather really cleared.

The fourth morning broke cloudless, and, contrary to the rule, was still fine toward eight o'clock. The sun burned warm upon the whole range, rapidly melting ice and snow. Tents were struck, as soon as it seemed safe to start, and the coolies called. We must be pardoned for the many mentions of coolie complications in this narrative. They are part and parcel of Himalayan mountain work, and, however dull and redolent of repetition the daily escapades of these hirelings may seem, yet recognised they have to be in tours, where hard work and much argument go hand-in-hand with the pleasures and rewards of the Himalayan world.

The coolies came slowly up and stood limply about, eyeing their loads. They were several times ordered to shoulder them, but only a few made any pretence of so doing. The centenarians, who were to remain behind with the heavier luggage, were altogether too voluble,

and evidently prevented the younger ones from taking up their packs. The *khansamah* and *bearer* urged, but still they demurred, and it became clear that plotting was in the air. Talking and explaining with threats of non-payment proved unavailing. They would not move, and finally, taking away their ropes from the packs, with exclamations of discontent, they one and all made off down the mountain side.

We were left with the servants, our chattels, and one private coolie, and, to crown our disappointment, the weather was perfect. Truly Koser Gunge was as hard to win as Lhassa. It was determined, that, rather than give it up, Zurbriggen, the coolie and under tent servants should carry up a small tent and blankets to the place for the next camp, returning to us that night.

Just as preparations were being made for this, the Yuno *Lambardar* appeared on the scene with some food coolies. From him it was ascertained, that the recreants were sitting on a lower spur not far away. We had offered them already a good *bakshish* if they would go, but now a larger one was suggested. After further parleying and promise of a reward far beyond their possible deserts, it was arranged, that thirteen of the young men should go, and

STEP CUTTING IN THE BIAFO SÉRACS.

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so at last we departed for camp number two. After starting, we sent back for a large tent weighing over fifty pounds. When it appeared, it was borne upon the shoulders of the chief of the centenarians, who more than any other was responsible for the revolt of the morning, and who took this opportunity to secure his share of the large reward offered for this special occasion. To our surprise, although handicapped by age and weight,—for the others were carrying only thirty to thirty-five pounds each—he arrived at our journey's end among the first.

The climb was a stiff one, and there was some difficulty in getting the coolies, lightly loaded though they were, over several sharp shelves and rock towers, but by three o'clock we were on the very spot selected from the valley 9,000 feet below. It was not flat, nor a place for a long stay, but we were glad even of this wind-swept sloping plateau for a foothold; for above there was no shelter, only the bare wall followed by a long ragged rock shoulder, which led to the great arête bounding the unseen snows of the main peak.

Some of the coolies went out to collect snow in water tins, while others built stone terraces for the tents. Water was shortly afterwards

found in a couloir, thus obviating the necessity of melting snow, which had proved rather a tiresome process at Snow Lake. Before darkness fell, we were settled, anticipating an uncomfortably cold night, but, considering the great height and the fact that the surface was composed of loose stones, the minimum temperature was not especially low, being 20° Fahr. Our bivouac was at 17,900 feet, approximately the height, which Zurbriggen had estimated it at from the valley.

The morning of 25th August was fairly clear but rather windy. As the weather seemed, on the whole, propitious, although the barometer had fallen somewhat during the night, we decided to start. Our porters this time were Kashmiris. One, a tent servant, had been recommended by an army officer as being able to endure rarefied air well. He had been duly supplied with warm clothing and ammunition boots, but, up to date, upon all occasions like the present one, when especial services were required, he had been ill from improper eating.

The other was the *Memsahib's* private coolie, whose services we had always scorned in climbing above 17,000 feet, when Baltis were to be had. He professed himself willing and able to go to any height, so, as the choice lay

between him and the half-clothed Shigar Valley coolies, it was decided to take him along. They both walked well on the march. The question was as to their holding out against altitude and cold.

For the first 1,200 feet above camp, we had to do some almost perpendicular rock work on the wall, and then to escalade the steep ascending arête leading up to the horizontal one, which rose as a pointed crest between us and the main peak. It was rock scrambling *de premier ordre.* Now we were crawling along a narrow ledge with great abysses beneath, and again climbing through a slippery chimney and back to the ridge, where perchance a formidable rock *gendarme* presented itself. But this last, like other rock or snow terrors, was ever quickly propitiated by Zurbriggen the calm and ready. He inspires in one a confidence, which many Swiss guides do not, and when one sees him coolly attack a dizzy untested gallery, one follows without questioning, ready to grapple with the slight hand and footholds, as they present themselves.

Our rock gymnastics occupied two and a half hours, when, after surmounting the narrow, jutting, horizontal arête, and passing, at the last, along a shelf about forty feet long, just wide

enough to place the feet upon, which projected from the convex surface of a rock mass overhanging a precipice, we found ourselves in a broad snow basin. We had expected to see the summit from this point, but this expectation was not fulfilled. Only a long snow slope leading to another ridge was visible. We stopped a short time for breakfast, the porters drawing their turbans down over their ears while eating their *chapatis.*

It was becoming cold. The sun now shone fitfully from behind great clouds, which were rolling toward the peaks on the opposite side of the Shigar Valley. The weather was not really bad at this time, but indicated a rough, cold ascent of the remainder of the peak. The wind blew strong in our faces from the first touching of snow, and traces of the recent daily storms were apparent in the soft snow, four inches deep, we encountered on the first slope.

On reaching the first ridge, we could see nothing of the summit, only a shoulder and a much sharper slope above it. The snow grew deeper as we ascended, reaching soon well over the tops of our mountain boots. The foundation beneath was thus far good, being hard snow, not ice. The second slope led to a

tremendous arête rising at an angle of sixty degrees, and so turned as to bring us more directly in the teeth of the wind. The cold was now growing intense, not so much because of the 14° Fahr. of frost, as because of the strong wind, which also, together with the rarefied air, impeded our progress.

The clouds had now covered most of the distant peaks, and the outlook was for storm, but no one spoke of retreat; we had worked too hard to do that unless absolutely driven to it. And still no peak. We were reminded of the hopeless cry of the shepherd in Tristan and Isolde, when he repeatedly returns to Kurwenal with the wail, "Und noch kein Schiff!"

A strong gust of wind, accompanied by sleet, blew off the *Memsahib's* treasured Ellwood *topie*, although fastened with elastic, and down it bounded with lightning speed over the slant of the great arête, across lower snow-fields, where it disappeared from view towards a huge crevasse nearly 1,000 feet below. It bore on its front a specially made Touring Club de France badge, that had travelled in many lands of Europe, Africa, and Asia, but was doomed to succumb to the elements on Koser

Gunge. Let not sympathetic women think the *Memsahib* stood bareheaded in the storm, for, fortunately, under the *topie* was worn a face mask, and cap with ear flaps. But it had broken the force of wind and sleet, which afterwards pricked, like a thousand needles, her partially exposed forehead.

By twelve o'clock noon we had reached 20,000 feet, and every step was now in snow to our knees, snow, dry and mealy, in the ever-increasing cold, which chilled and benumbed our feet to such an extent that we feared frostbite. Beneath the snow there was solid ice, which made the footing precarious on the steep slants. Every step had to be dug or trodden out by Zurbriggen, and the waiting for this in the wind and snowstorm was more than bitter. The lifting of our feet from one knee-deep step to another was accomplished with panting, and each attempt seemed a *tour de force*. We could not stop to get our food from the *tiffin* basket. Even chocolate and the kola biscuit, we had in our pockets, were scarcely procurable with half-frozen fingers.

The *Memsahib* screamed to Zurbriggen, she must change her gloves, as she could no longer feel her ice-axe. The loudest scream was but just heard by him at the end of thirty feet of

rope.[1] We halted, and he rubbed her hands vigorously and pounded her feet, which were almost destitute of sensation. In place of her fur gloves he tied on lined rubber mittens, which, while icy cold at first, restored the circulation after a time.

We came to a knife edge, from which the gale beat a blinding snow dust into our faces, and there we saw, emerging from the mist, the final peak, a tall snow cone with a rounded blue ice cornice. It was still a considerable distance off. We had to descend into and cross a small snow lake, and then ascend a sharp slant to reach a snow plateau at the base of the peak. The distance seemed interminable, nay, impossible in that howling storm, but who would now be prudent and return, except possibly the porters, and they were not consulted.

We went down to the lake, and, after crossing it, attacked the slant, which on account of its steepness, had to be climbed in zigzags, a not agreeable exercise with the ice foundation, still a feature of the climb. We had ever been going backward from the rock face and crossing snow areas, by no means suggested by the difference of 2,000 feet between its height

[1] The velocity of the wind from twelve o'clock on must have been at least twenty-five miles an hour, and, had it increased to any extent, we could not have stood against it.

and that of the summit. We found the snow portion of Koser Gunge to be not simply one peak, but a tremendous mountain scheme of endless ridges, slopes, arêtes and domes.

On this dangerous incline, where the wind was whirling snow in clouds over us, and threatened to tear off every strap or scarf not bound like iron, the endurance of a Kashmiri found its end, and the sickened second porter sat down, turning his back to the roped procession. There came a tug on the rope, and, looking up, we saw Zurbriggen, with icicles two inches long on his beard, waving his hands and vociferating loudly. As we could not hear distinctly what he was saying, he came down towards us, when the *Memsahib* called out, "In mercy's name don't stop here!"

"Stop here," he cried, "never; it would be death; the coolie must come on or be left;" and then came his usual "*donnerwetter*," the strongest expletive a German can use, and Zurbriggen's characteristic ejaculation, with a peculiar lengthening of the first syllable, at all times of emergency. He shouted the order, "Come on or leave the rope," which was repeated by the *Sahib* and the tent servant to the coolie. For a minute or two nothing was done, and we then told the servant to take what he

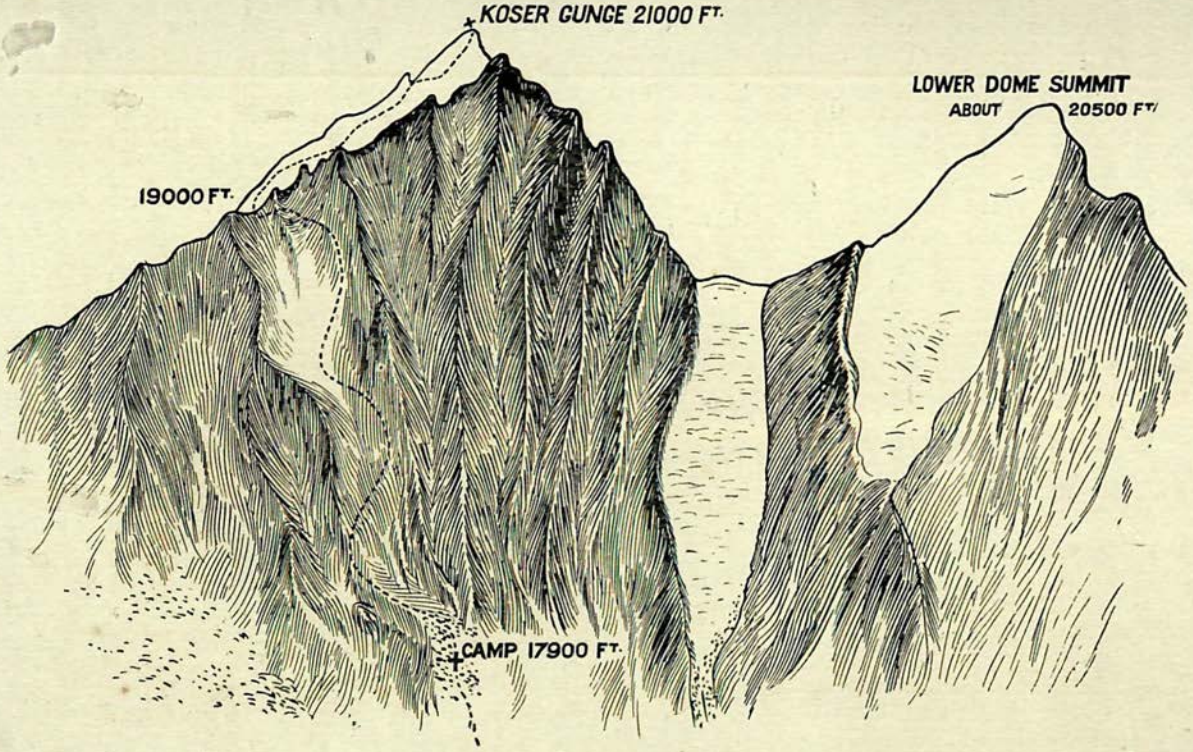

DIAGRAM SKETCH SHOWING ROUTE UP KOSER GUNGE.

[*To face p.* 176.

was able to carry from the coolie, and unrope him. He shivered and shuddered and pointed to his legs, and we saw he was too dazed and weak to carry more than his own load of camera and water flasks.

It seemed hours, and was actually some minutes before the coolie was released, and we saw him crawl downward, shambling into the deep tracks, and bearing our extra coats and food in the wrong direction. What else could one expect of a Kashmiri? We trembled in silence during the unroping, driving in our ice-axes firmly, lest his unavoidable movements should precipitate us all off that dangerous slope into the snow basin below. Numbed almost beyond power to move during the halt by the wind and increasing cold, we continued on, conquering foot by foot, in the relentless storm, the height so long wooed and so hard to win.

We reached our goal at three o'clock. The aneroids registered, one a hundred feet under, the other a hundred and fifty feet over, 21,000 feet. The glass indicated 10° Fahr. On the blue ice cornice of Koser Gunge all the four winds of heaven seemed to be holding a *tamasha*. It was no place for us, weak and frozen to the last enduring point, to stop to

make careful observations or to try to leave any record, which would have been swept off as soon as deposited. All the pleasant things we did on our other peaks, such as breakfasting and particularly photographing, had to be left undone. There was not even a pipe for Zurbriggen, and we were quite ready, after stamping our feet for a few minutes on the ice at the highest point, to start down again.

For the last thousand feet we had no view, except of the immediate features of the mountain we were on; and the undoubted grandeur of the view from the white king top must be left to later climbers to describe. The white dome, so enticing as seen from Shigar village, is about 500 feet lower than the highest summit, so far as we could determine through the shifting clouds. Our work was of the hardest, and our visit that of the birds. Although an important part of our object in attempting the ascent of this particular mountain was frustrated by the bad weather, we have the satisfaction of having been the first to conquer Koser Gunge, noblest of Shigar peaks.

The descent over the steep slopes and ridges to the boundary arête was not rapid nor easy in the still raging sleet storm. After the hours of upward climbing there were two of downward

pull, before we came to a place, where a short meal could be taken, on a snow plateau, where we found the coolie trying to keep warm behind his load. Even here there was no rock nor *sérac* to protect us, while we sat for a few minutes in the mealy snow, with ulster capes wrapped about our heads.

Zurbriggen strode away to look for the *topie*, which, when last seen, was spinning over the snow in this direction. A hopeless task; it had gone where no man, not even a Swiss guide, could follow. It seemed to the *Memsahib* on that day, that she would rather have lost rings and brooches, had she had them there, than the *topie*, for the loss of the last meant exposure of her head to the Indian sun on numberless marches afterwards. The later receipt at Srinagar of a new, ill-fitting one from Calcutta, but partially solaced her for the visiting-card the wind forced her to leave in a deep crevasse on Koser Gunge.

We were out thirteen hours from the start to the return to camp, two or three more probably, than would have been required in good weather. Under certain conditions the peak could not be climbed at all from our upper camp. If, for instance, as must sometimes be the case even in settled weather, the long slopes, ridges and

final cone were hard frozen and icy, so that each step had to be cut carefully, time would fail for even the most expert guide to make his way to the top. Under such circumstances a camp would have to be made, at the lowest, in the wind-swept basin above the horizontal arête, at over 19,000 feet, a hazardous undertaking. So perhaps after all Koser Gunge in a storm is better than Koser Gunge not at all.

The effect of rarefied air was as usual noticeable above 18,000 feet, but we undoubtedly suffered more than we otherwise should, because of the additional exertion required to battle with the snow and high wind. We reached camp as darkness was closing in, well satisfied with the amount of exercise we had had on that day, and thankful to be again within the shelter of our tents, even if we did have to sleep on frozen ground. For the first time in the whole snow work of the summer, we arrived in camp with dry feet, which fact attests the temperature of the snow in which we had marched the entire day. The following morning we set out at daybreak, with the mercury at 16° Fahr., for the lower regions.

By the ascent of the Siegfriedhorn, Mount Bullock Workman and Koser Gunge, three successive world mountaineering records for

TWO RECORD CLIMBERS.

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women, viz. of 18,600, 19,450, and 21,000 feet, were made.

And so adieu to glacier and shining snows, "to shoulder and shelf, green slope and icy horn," on which, for three months, so many happy and inspiring hours were passed. Forgetting the trials, that the treading of unexplored paths must needs bring, we sympathise fully with McCormick's quotation, "Think of the people, who are presenting their compliments, and requesting the honour, and 'much regretting'; of those that are pinioned at dinner tables, or stuck up in ball-rooms, or cruelly planted in pews; aye, think of these, and so, remembering how many poor devils are living in a state of utter respectability, you will glory the more in your own delightful escape."

CHAPTER XII

Personal Experiences with Rarefied Air, and some Deductions for which the Authors are separately Responsible.

I.

By FANNY BULLOCK WORKMAN

For the benefit of women, who may not yet have ascended to altitudes above 16,000 feet but are thinking of attempting to do so, I will here give my experiences for what they are worth.

Within four weeks of the completion of a rather exhausting cycle trip in tropical Java, where for six weeks, I had been exercising in a moist temperature varying from 80° to 95° Fahr., I began the march from Srinagar to Baltistan. I had been doing little walking, with the exception of climbing a few Javan volcanoes, which was not invigorating exercise even at heights of 11,000 and 12,000 feet. Two weeks and a half after leaving Batavia, were spent in

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lying around inactive on the decks of steamers, on the train crossing the heated plains of India, in a temperature of 104° to 107° Fahr. for seventy-two hours at Rawal Pindi, and in a *tonga* from that place to Srinagar. It will thus be seen that, in starting out, I was in no especial training for mountain work.

I am not a light weight and am a slow climber. Still my powers of endurance on long days of climbing, and in weeks of continued cycle touring, have, for a number of years, been good. I had been told by people in England and also in India, that I should not be able to cycle more than one cold weather in the plains, and certainly should not be fit for much in the mountains after a long season of exposure to the sun at lower altitudes. As a matter of fact, my hardest and highest mountain work was accomplished after two seasons, of six months each, cycling in Ceylon, India, and Java. By cycling, I mean touring of a kind quite unknown in European countries, involving a mental tax in trying to control the conditions met with in the East, in order to reach a desired end, that, very possibly, on a given occasion, might appreciably diminish one's capacity for a long day of physical exertion, or for resisting the effects of rarefied air.

As good a bodily condition as possible is, of course, desirable to enable one to combat successfully the factor *majeure* in high climbing, diminished oxygen, as well as to endure fatigue and the extreme cold often met with at high altitudes.

On the march to Askole, I experienced much greater difficulty in breathing, when near the top of the Skoro La, our first high pass, at about 17,000 feet, than later on at 18,000 and 19,000. The advisability of passing a month, if possible, in valleys 11,000 or 12,000 feet up, and in making experimental higher tours is obvious.

Before making the three principal ascents, I had been for weeks at altitudes varying from 11,000 to 17,500 feet. In the ascent of the Siegfriedhorn, I started from the height of 16,200 feet with a rather severe headache, which, I suspected, came from cold rather than from altitude. This proved to be the case, for it did not increase or diminish, as I went higher. With the exception of the usual quick breathing, which climbing always causes in my case, I noticed no unpleasant sensations from rarefied air either on the ascent or at the top. Neither did I feel the least desire for kola biscuit, peppermint or cognac, whereas I

had felt the need of and used peppermint with considerable relief on the Skoro La five weeks previously. My pulse at 17,000 feet, after a few minutes' rest, was ninety; at the summit, 18,600 feet, one hundred and five.

On Mt. Bullock Workman I met with no inconvenience in the way of mountain sickness, although at the summit, after the exertion on the last very steep arête, rendered most arduous by fresh snow, I was seized with a violent headache, which became much modified after a substantial breakfast, for which my appetite was good at 19,450 feet. I attribute my slight suffering from rarefied air on these two summits to three causes; first, because I had been living and sleeping at high altitudes for five weeks; second, because my vitality was at no time much impaired by the cold; third, because these climbs were mostly over snow instead of rock.

I cannot say that I ever slept soundly above 16,000 feet, and at 17,900, our highest camp, my night's rest was often broken in upon by difficulty of breathing.

On Mt. Koser Gunge, 21,000 feet, all the conditions were changed. Over the sharp rock arêtes and walls to 19,000 feet, I was able to ascend at a rate of 600 feet an hour. From

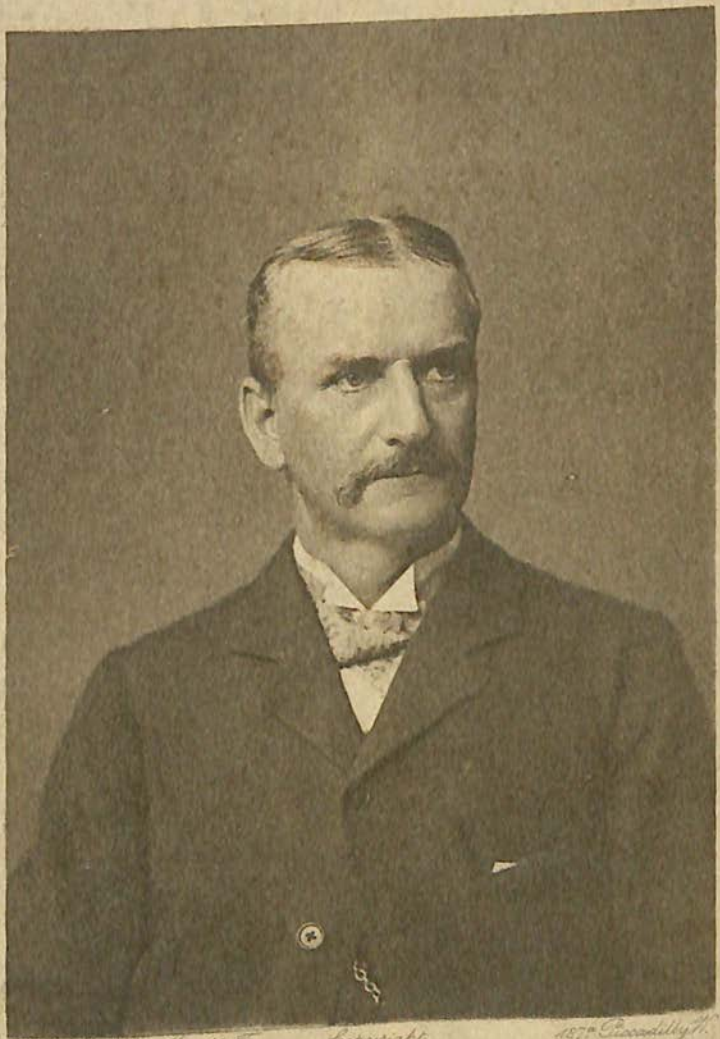
that point, my chief contention was with the elements rather than with rarefied air. The continued high wind and deep snow reduced our progress to about 300 feet per hour, and much increased, with me, the difficulty of breathing. Towards the last my gaspings for the much required oxygen were most strenuous.

I do not endure severe cold well at any altitude, and at this great height found the chill and numbness produced by the icy wind bitter to bear. I recall no mountain sickness whatever, although the unprecedentedly severe and continued exertion both on the ascent and descent of this peak, naturally caused a generally used-up physical condition, before I reached camp at night. No lameness resulted, and the following day I felt perfectly fit and able to attack another mountain had it been necessary.

II.

By WILLIAM HUNTER WORKMAN.

ALTHOUGH averse, as a rule, to the mention of subjective phenomena, as savouring too much of autobiography, since the effects of high altitude can only be determined by the collation of individual experiences, I give mine here.



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My definition of a high altitude, so far as my own experience is concerned, is one comprehended between 15,000 and 21,000 feet. Below the former height, I do not remember to have noticed any great departure from the normal in any of my bodily functions. As a basis for my observations, I may state, that I have passed days at a time at elevations between 14,000 and 17,000 feet, and have, on seven different occasions, reached points above 17,500 feet.

High altitude may cause disturbance of the nervous system as shown by insomnia, headache or nausea, of the appetite and digestion, of the circulation and of the respiration.

I have never had any difficulty in sleeping attributable to altitude, and, under the same conditions, have slept as soundly in camps at between 16,000 and 18,000 feet, as at lower levels. In order that sleep may not be interfered with, I make it a rule never to drink coffee or strong tea after twelve o'clock noon, and, if weary from a day's march or climb, prefer at its close a dose of an alcoholic stimulant sufficient to diminish or take away the jaded sensation in feet and limbs, but not enough to be felt in the head.

After much experience Mrs Workman and

myself have found the best method of relieving the intense thirst and fatigue caused by long continued exertion, whether in cycling or mountaineering, to be, to drink freely of very weak hot tea, with a teaspoonful of whisky in each cup, till the extreme weariness is relieved, after which the tea alone may be continued till thirst is allayed. The tea should be made, for two persons, by immersing a metal tea ball containing about one heaping teaspoonful of good tea in two to three quarts of boiling water for not over twenty seconds, when it should be withdrawn. This gives a straw-coloured infusion containing a small amount of stimulant thein, but not enough to interfere with sleep, without the deleterious tannic acid, which is extracted, where the tea is allowed to remain in the water.

Independently of altitude, fatigue after prolonged exertion, may and often does, prevent sleep. On one occasion a companion of mine suffered such distress from this cause, that a full dose of morphia had to be given hypodermically to relieve it. Not only does the tea, made and used as above described, lessen the feeling of fatigue by its three stimulants, heat, thein and alcohol, and control thirst, but it warms the body and equalises the circulation,

thereby preventing, perhaps, a dangerous chill, which, at a high altitude and low temperature, is not unlikely to supervene, when the bodily vitality is lowered by exertion.

Alcohol, when properly used, is a valuable addition to the armamentarium of the mountaineer. When abused, it is as potent an agent for evil. Only in exceptional cases should it be indulged in, until the day's work is completed, and then only to the extent of moderate stimulation, never to any approach to narcotism. It is best taken, if circumstances permit, with the evening meal, or, in any event, with food, as, under its stimulant action, the digestion, and assimilation of nutriment by the tissue cells are promoted, the waste due to exertion more easily repaired, and the depression, which always follows its stimulant action, when taken fasting, avoided.

It is a great mistake for mountain climbers, to indulge, as is so often done, several times daily while fasting, in alcoholic stimulants. Their power of endurance is certain to be impaired by such indulgence, and they are more likely to fail under prolonged effort.

I can only recall one instance during the summer of 1899, in which I suffered from headache while on a high climb, viz. during

the ascent of Mount Bullock Workman, starting at 17,375 and ending at 19,450 feet, on which occasion, I experienced considerable pain at the base of the brain behind. This I attribute, not to the effect of altitude, but to exposure of my neck to cold during the preceding night, when our camp was pitched on the glacier, and we slept with our heads only a foot from the ice. I have suffered scores of times with an exactly similar headache after exposure to cold at or near the sea level. Nausea I have never experienced, and have seen but little of it in others. It seems rather remarkable, that so many of the coolies, who had passed their lives at an altitude of over 8,000 feet, should have been so severely affected on the Skoro La at 15,000 to 16,000, while we three Europeans, only a few days from the sea level and great tropical heat should have escaped. It is not improbable, that their indisposition was due to the cause suggested by Mosso, viz. fatigue, as they had been climbing for hours, with loads of fifty to sixty pounds, up the unusually steep slopes that lead to the pass.

Altitude has had no appreciable effect on my appetite and digestion. Both have been uniformly good, and I have always been able to

sustain the honour of my segment of the *tiffin* basket up to over 20,000 feet, where our highest meal was taken at the base of one of the vast slopes of Koser Gunge, with an icy wind blowing the snow upon us in a sugary shower.

As regards food, it may seem superfluous to remark, that, during an expedition special attention should be paid to the diet; but the amount of gastric and intestinal disturbance confessed to by, and that I have myself witnessed among mountaineers, shows that a note of warning may still be sounded.

It should be a cardinal rule with Alpinists to keep their vital powers at all times, during an expedition, in the best possible condition, so as to be prepared for any strain that may be required. No difficult work nor high ascent should be attempted unless they feel perfectly fit. To this end, among other things, the diet in general should be sufficient in quantity, and as varied as circumstances will permit; but always of a character calculated to disturb neither the digestion nor other bodily functions. Highly seasoned foods should be avoided.

For special occasions, the food that offers the greatest amount of nourishment in the smallest possible bulk should be selected. Good beef and mutton, preferably roasted, fulfil these

conditions in the highest degree. Among vegetables, fully ripened peas and beans take the lead, and are probably but little inferior to meats. Plain cheese, particularly Edam and Gruyere have proved valuable in our experience. These are all easily digested, and supply a concentrated nutriment, that conserves the bodily strength and temperature to a far greater degree than any stimulant can possibly do.

If any one has faith in the stimulant properties of kola, I should advise its use as an auxiliary to good food, rather than in place of the latter. A person suffering from mountain sickness or from indigestion, to the extent of not being able to digest the foods mentioned, is scarcely in a condition to warrant his attempting a high ascent.

Where fresh beef and mutton could not be obtained, the Australian tinned roasted beef and mutton have furnished us with an excellent substitute; also Australian beef tongues. Tinned flageolet beans and the American tinned baked beans have also given us satisfaction. In the Himalayas fresh beef is not to be had, but sheep and chickens can be bought at reasonable prices, which can be taken alive to the snow line and then killed.

The much praised beef extracts do not, in

AT CAIRN ON SIEGFRIEDHORN.

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my opinion, possess a tithe of the nutriment of good meat, and most of them, besides being expensive, are unpalatable or contain so much salt as greatly to increase thirst. Many of the tinned preparations of so-called roasted beef and mutton consist of meats of the toughest and stringiest description, boiled, presumably, from their pale and colourless appearance, for the extraction of the juices. These, together with the Irish stews and *goulasches*, composed of animal odds and ends, not always in freshest condition, mixed with carrots, soggy potatoes, onions and cabbage, well seasoned with pepper and rankly flavoured with garlic, not only contain comparatively little nutriment, but are apt to seriously derange the digestion. Garlic itself, with some persons, acts as a nauseating cathartic, which may upset their equilibrium for twenty-four hours.

When climbing properly I have never been troubled with any disturbance of the circulation. My circulatory organs have always accommodated themselves to the work in hand, without giving my sensorium any reason to perceive they were being unduly taxed, and I have not experienced palpitation to an unpleasant degree, or faintness, or vertigo or spots before the eyes.

Lastly we come to the respiration. Here we reach ground, where it behooves us to tread modestly. Above 15,000 feet, I begin to notice, with a given amount of exertion, an increase in the force and frequency of the respiratory movements. The pace must now be regulated, movements must be slower. Fewer liberties of action can be indulged in. At 17,000 to 18,000 feet the change in the conditions has become decided. From this altitude on, all movements must be made with deliberation. Three or four rapid steps forward, stooping suddenly to pick up some object, holding the breath for a moment to take a snap-shot with the camera or make an observation cause me to lose breath to an unpleasant degree, and repeated gaspings are required to regain a fair degree of comfort.

Even the slight effort required to raise oneself up at night to adjust the coverings of one's camp cot, causes the same symptom. The effect is the same, if sudden movements are made when sitting still. It makes no difference, whether I am in motion or am quiet, sudden movement is the thing that occasions loss of breath.

On the contrary, when climbing, so long as my movements are slow and measured, I do not lose breath, and manage to get along com-

fortably, with a somewhat quickened respiration. I have not noticed any marked increase in the severity of this symptom between 17,000 and 21,000 feet.

During the last thousand feet on Koser Gunge, when struggling with the steep slopes, the snow and wind, I did not suffer unduly from loss of breath; but, curiously, on the descent to 19,000 feet, my respiration was affected to a much greater extent. This may have been due to the somewhat more rapid motion in descending, or to the slight holding of the breath incident to balancing the body, so that the feet might strike exactly into the precarious footholds made in ascending, or both combined. The blood at these altitudes seems to contain no reserve oxygen, and, if the respiratory movements be suspended for an instant, distress ensues. As I do not remember to have noticed this difference on the other mountains, where we had but little wind, it is also possible, that the pressure of the wind in our faces going up may have acted as a compensation for the tenuity of the air, while on the descent, the effect of the latter may have been reinforced by the partial vacuum created before the face by the wind blowing from behind.

My pulse and respiration when resting at three different altitudes were as follows:—

(1) At Avalanche Camp, 16,200 feet, in the morning after a good night's rest, pulse 76, respiration 17, sitting.

(2) At Haunted Camp, 17,375 feet, two hours after arrival, the ascent having involved three and a half hours of stiff climbing, pulse 76, respiration 18, sitting.

(3) At Upper Camp, Koser Gunge, 17,900 feet, two hours after arrival, ascent having taken five hours over steep rock face, pulse 78, respiration 18, sitting.

Here it will be noticed that a difference of 1,700 feet in altitude, together with the wear and tear of hours of difficult climbing, produced, after a two hours' rest, but slight effect on the pulse and respiration, which, still further, at an altitude of 17,900 feet, did not differ appreciably from the normal at sea level. I would also mention, that the so-called rest consisted only in cessation from climbing, and that, during the two hours, I was actively engaged in directing the arrangement of the camps.

On the ascent of the Siegfriedhorn, starting at 16,200 feet with pulse of 76 and respiration of 17 as stated in (1).

(4) At 17,200 feet, after three hours of ascent over glacier and a five minutes' rest, standing, my pulse was 90 and respiration 19.

(5) At 18,200 feet, after five minutes' rest, standing, pulse 94, respiration 20.

(6) At the summit, 18,600 feet, ten minutes after arrival, having been five and a half hours on the ascent, pulse 100, respiration 24, sitting; no discomfort.

It is scarcely necessary to mention the well-known fact, that, in a healthy individual, mountain climbing, at all altitudes, temporarily accelerates the pulse and respiration. While this acceleration increases with the altitude, the exertion being the same, its degree at all altitudes varies with the steepness of the grade, the character of the path, and the rapidity of movement, and it may be very marked at heights not much above sea level.

Hence it is manifest, that the rate of the pulse and respiration, taken while the climber is moving or immediately after stopping, is no proper measure of the effect of altitude on the circulatory and respiratory organs. The only records, it seems to me, that have any value in this regard, are those made when the body

is quiet after being duly rested. The practical point for the climber to observe, when ascending at high altitudes, is, so to regulate his pace and manner of movement, that his respiration and circulation shall not be accelerated to a degree greater than he can endure with comfort.

RAJA SIR AMAR SINGH, K.C.S.I.
Commander-in-Chief of the Kashmir Army.

[*To face p.* 198

ALEXANDER COIN MINTED B.C. 320.

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CHAPTER XIII

Alexander Coin—Raja Sir Amar Singh.

THE accompanying facsimiles are of one of the Alexander coins from the collection, owned by *Raja* Sir Amar Singh, K.C.S.I. of Kashmir, which was found in the State of Jammoo, Southern Kashmir. This coin was presented to Mrs Fanny Bullock Workman, by *Raja* Sir Amar Singh, as a souvenir of her two seasons of mountaineering in Kashmir. It is one of the first series of the Alexander coins, and was minted in Macedonia during the reign of Alexander, about 330 B.C. On the obverse is the head of Hercules, and the reverse shows Zeus with the eagle, beneath which is the figure of Justice.

The portrait is that of Hon. Col. *Raja* Sir Amar Singh, K.C.S.I., Vice-President of the Jammoo and Kashmir State Council, Commander-in-Chief of the Kashmir Army, and Military Member of the State Council. Travellers to Kashmir who have occasion to meet the *Maharaja*, or his brother, *Raja* Sir Amar

Singh, cannot fail to be impressed by the courtesy and culture of these Princes of the East, gentlemen, who, in their intellectual ensemble, combine the ineffable grace of the best Oriental manners with the learning of the Indian savant, and a keen appreciation of what western civilisation offers in scientific and practical advancement.

On first entering the former playground of the Mogul Emperors, on our cycles in 1898, we received a *parwanah* from *Raja* Sir Amar Singh, requesting state agents, bungalow *khansamahs* and others to do all in their power to smooth the path for us on our wheeling excursion to Srinagar. Such a paper is now quite unnecessary, but cycling from Rawal Pindi to Srinagar was at that time a novelty, and any unforeseen accident might have made the *parwanah* of vital importance to us.

Raja Sir Amar Singh, while not of the same lineage as the famed Mogul Emperors, like them leaves the cosmopolitan life of his winter home and seeks rest in summer in the charming *vie champêtre* of the Happy Valley; and, while the *baghs* and terraces of the *Rajas* and their queens of other days are now mostly silent, save for the songs of the birds and of babbling brooks, the courtly grace, the fine aroma of Indian

chivalry follows in the train of the Rajput prince, when he makes his spring exodus to the *chenar* gardens of beautiful Kashmir.

Our wanderings were mostly in the distant ice land, among a people more primitive than the Kashmiri, where leafy *baghs* played a minor part in the *entourage* of snow and rock, but it was restful and pleasant to return in September to the poet's Kashmir, which in many motifed splendour clings, like a silken prayer-rug to the flanks of real Himalaya.

THE END.

GLOSSARY

Baboo, native clerk or manager
Bagh, garden
Bakshish, tip always expected by an Indian even for slightest service
Bazaar, market
Bearer, valet
Bergschrund, space between glacier and mountain side
Boortsa, aromatic shrub with woody stem used for fuel where wood cannot be obtained
Bourrasque, strong gust of wind

Cella, sanctuary of Hindu temple
Chapatis, flat cakes of meal or flour cooked in pan
Chenar, the Kashmir sycamore, casts dense shade
Chilamchi, wash-basin
Chillis, red peppers
Chit, letter, note, testimonial
Cirque, circle
Ciudad encantada, enchanted city

Dâk, post, relay
Dâkrunner, runner carrying mail, official runner has short staff with bells
Dall, kind of butter
Deodar, Kashmir evergreens similar to spruce
Dir, to you
Doonga, Kashmir river boat with cover of matting, which can be raised and lowered

Entourage, setting
Euch, to you
Ewigen, eternal

Faleric, mountain mass
Friede, peace

Gendarme, projecting point of rock
Gompa, Tibetan monastery
Gopura, monumental gateway of a South Indian temple, answering to Egyptian pylon
Goulasch, highly seasoned Austrian stew

Hangi, Kashmir boatman
Heil, hail (the interjection)
Heilige, holy, revered
Hochgebirg, higher mountain regions above tree growth
Höhen, heights

Khansamah, chief provider, usually acts as cook

La, mountain pass
Lambardar, chief or head man of an Indian village

Lepcha, member of a Sikkim tribe
Licht, light
Loden, Tyrolean woollen fabric

Maharaja, hereditary ruler of an Indian state
Maidan, level or gently sloping grass plot
Massif, mountain mass
Munshi, scribe

Naga, serpent, demon or god
Naib Tehsildar, assistant tehsildar
Naib Wazir, assistant wasir
Névè, beds of old snow
Nullah, ravine, bed of river

Om Mani, preface to Buddhist prayer
Ovis Ammon, wild mountain sheep

Purwanah, a written pass
Pepul (*ficus religiosa*), sacred tree similar to poplar
Peyrac, flat headdress falling to waist behind, studded with turquoise, worn in Ladakh
Pugaree, turban
Putties, woollen bandages used as stockings
Putto, Kashmir cloth similar to homespun

Raja, Indian Prince
Rasad, provisions, rations

Saheb, title of respect applied to Indian officials
Sahib, title of respect applied to Europeans
Sampan, Cambodian and Siamese boat
Serai, rest house for travellers, especially for natives
Shawm, long trumpet used by Lamas
Shikari, hunter, assistant in the chase
Sieg, victory
Sikra, chief tower of Indian temple covering sanctuary
Sirdar, native in charge of coolies
Sonne, sun
Swas, flood caused by bursting of mountain barrier

Tamasha, Indian entertainment
Tehsildar, officer in charge of district
Tiffin, lunch
Tonga, two-wheeled cart with cover
Topie, high-crowned hat worn in tropics

Wala, ending appended to nouns to denote one in charge of, as "pony-wala"
Waringen, sacred tree of Java
Wazir, prime minister

Yak, long-haired mountain animal, resembling buffalo
Yakdan, leather-covered mountain travelling box

Zak, raft of inflated goat-skins
Zemindar, collector of revenue

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